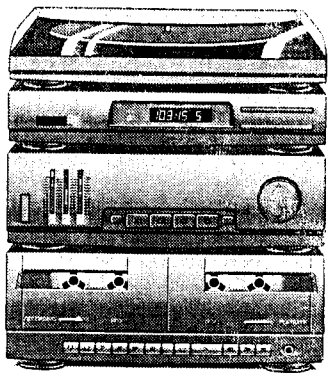
Midi System AS9402/22R/42

AS9404/42

Service
Service
Service



Service Manual

For repair information of the casstte mechanism see Service Manual of **Tape Transport RDN/RDR General Documention** and **Tape Transport RDN-1**. +4085 1134/141/1

For repair information of the Record Player see Service Manual of Record Player **HP7D283MQ-1**.(For AS9402 only)

+4188 1/26/8/6

CONTENTS

Picture, Connections and Contents, Specifications
Tape Adjustment and Wiring Diagram..... Old
New
Tape Panel..... Old Circuit and Layout
New Circuit and Layout
Tuner Board..... Old Circuit and Layout
New Adjustment table, Circuit and Layout
Feature Board..... Old Circuit and Layout
New Circuit and Layout
Power/Selector Board..... Old Circuit and Layout
New Circuit and Layout
Exploded View
Mechanical and Electrical Partslist
Safety Text

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

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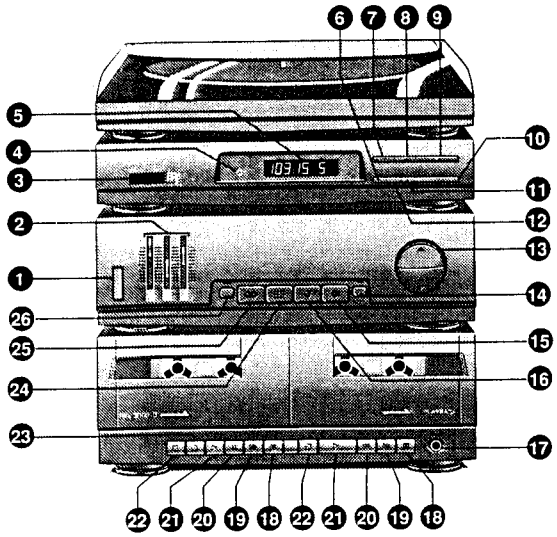
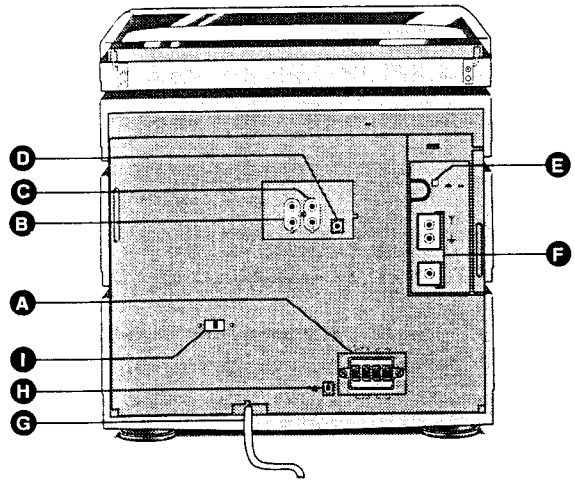




CONNECTIONS AND CONTROL

1	Power Switch	1263	19	F - Forward	
2	Graphic Equalizer	3507, 3509, 3511	20	F - Rewind	
3	Infra Red Sensor	6420	21	Play	
4	Stand By Indicator	6435	22	Stop/Eject	
5	Display	1420	23	Record	1707
6	FM/AM Selector	1406	24	Tuner Selector	1404
7	Preset Down	1412	25	Tape Selector	1402
8	Preset Up	1411	26	High Speed Dubbing	1690
9	Tuning Up	1407	A	Speaker Connection	1200
10	Tuning Down	1410	B	CD/TV Input	1554
11	Mono/Stereo	1408	C	Phono Input	1554 For AS9404 only
12	Program Memo	1409	D	RC Socket	1422
13	Volume Control	1510, 1511	E	Not Applicable	
14	DBB Switch	1405	F	Aerial Socket	1100
15	CD/TV Selector	1403	G	AC Cord	
16	Phono Selector	1401	H	Phono Supply Socket	1560 For AS9404 only
17	Headphone Socket	1258	I	Not Applicable	
18	Pause				

SPECIFICATIONS

GENERAL

Mains voltage		: 120V - 220V - 240V
Mains selection/setting		: Switchable Set at 220V
Mains frequency		: 50Hz - 60Hz
Power consumption		: 85W max.
Dimension centre unit		: 360 x 364.5 x 375mm

TUNER : FM SECTION

Tuning range		: 87.5MHz - 108MHz
Tuning grid		: 50kHz
IF frequency		: 10.7MHz
Aerial input		: Dipole
Sensitivity at 26dB S/N		: < 4µV
Selectivity at 600kHz bandwidth		: > 72dB
IF rejection		: > 80dB
Image rejection		: > 80dB

TUNER : AM SECTION

Tuning range	MW	: 522kHz - 1611kHz
	LW	: 148kHz - 284kHz
Tuning grid	MW	: 9kHz
	LW	: 1kHz
IF frequency		: 450kHz
Sensitivity at 26dB S/N	MW	: < 3.5mV/M
	LW	: < 6.0mV/M
Selectivity at 18kHz bandwidth	MW	: > 28dB
	LW	: > 28dB
IF rejection	MW	: > 40dB
	LW	: > 40dB
Image rejection	MW	: > 30dB
	LW	: > 34dB

AMPLIFIER

Output power at 10% distortion		: 2 x 10W -1dB
Speaker impedance		: 2 x 8Ω L/R
Frequency response within -3dB		: 100Hz - 14kHz
Equalizer control		: -6dB to +6dB
Dynamic bass boost		: +6dB at 100Hz
Headphone output at 8Ω		: 30mW
Input sensitivity	CD/TV	: 300mV at 47kΩ
	Phono	: 4.5mV (For AS9404 only)
Phono supply output		: 9Vdc - 15Vdc

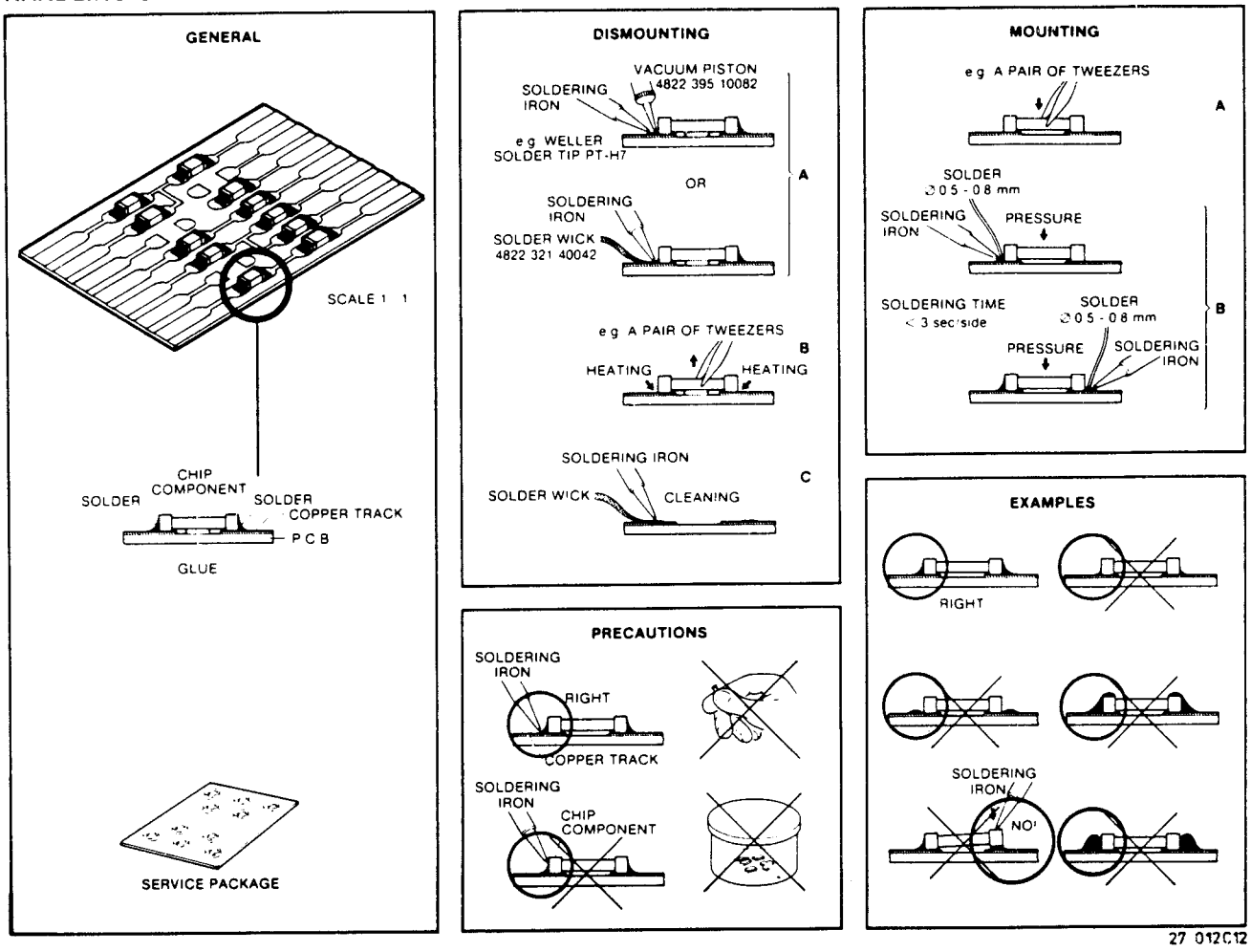
CASSETTE RECORDER

Number of track		: 2 x 2 stereo
Tape speed		: 4.76 cm/sec ± 2% ≈ 2 x 4.76 cm/sec
Wow and flutter		: < 0.35%
Fast-wind time C60		: 130 sec
Bias system		: 57kHz ± 10kHz
Recording playback frequency response within -8dB		: 80Hz - 10kHz Rec 80Hz - 9kHz NS Dubbing
	within -10dB	: 125kHz - 8kHz HS Dubbing
Signal to noise ratio	Rec	: > 44dB
	NS Dubbing	: > 42dB
	HS Dubbing	: > 30dB

RECORD PLAYER (For AS9402 only)

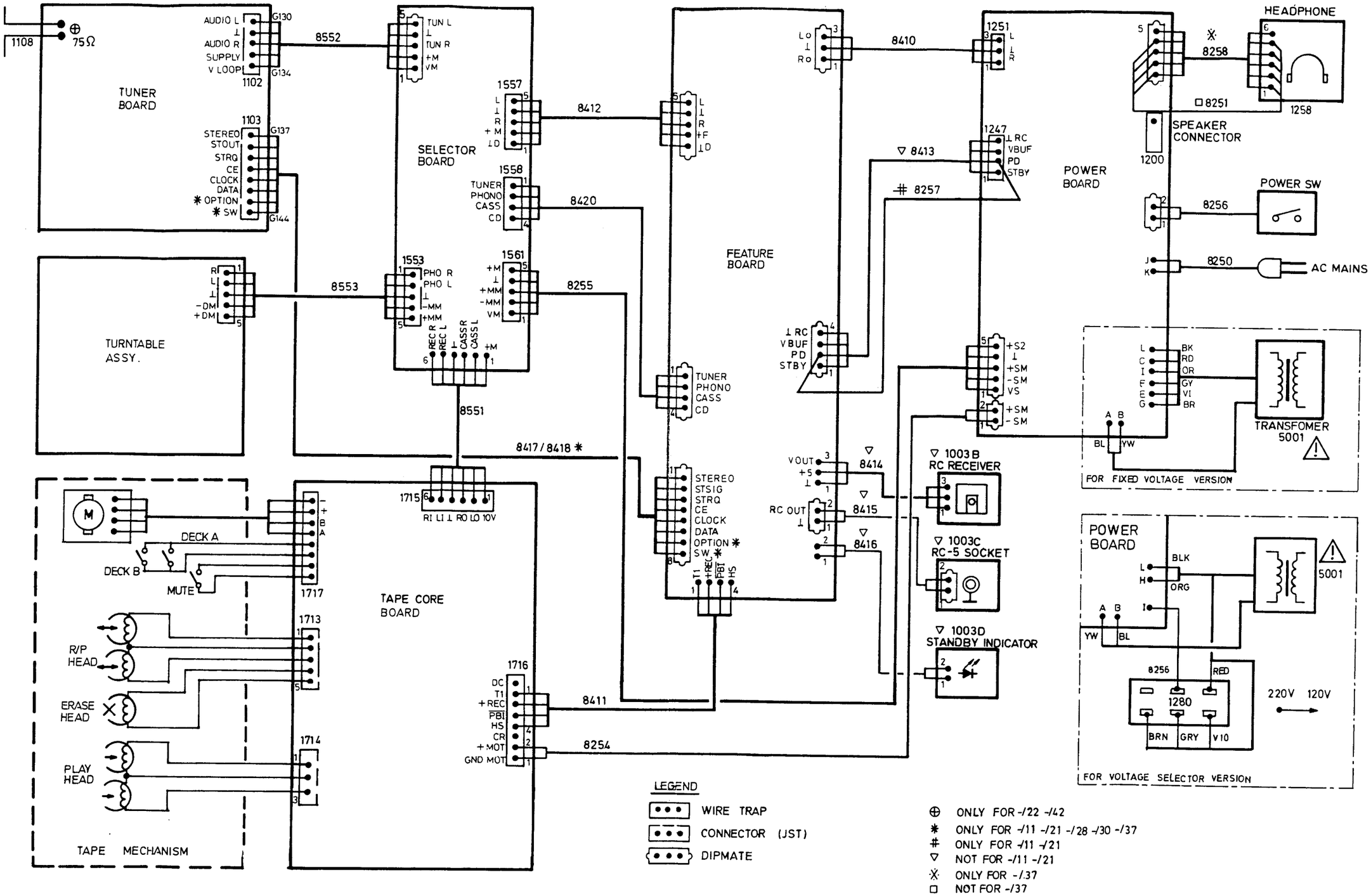
Type of drive system	: Belt drive
Type of PU Head	: Diamond (Magnetic Stereo)
Stylus force	: 5.0gmf +1.5gmf/-1gmf
Speed	: 33 1/3 ; 45 rpm ±2.2%
Wow and flutter	: 0.3%
Rumble	: -30dB DIN A
	: -50dB DIN B

HANDLING CHIP COMPONENTS



27 012C12

OLD WIRING DIAGRAM



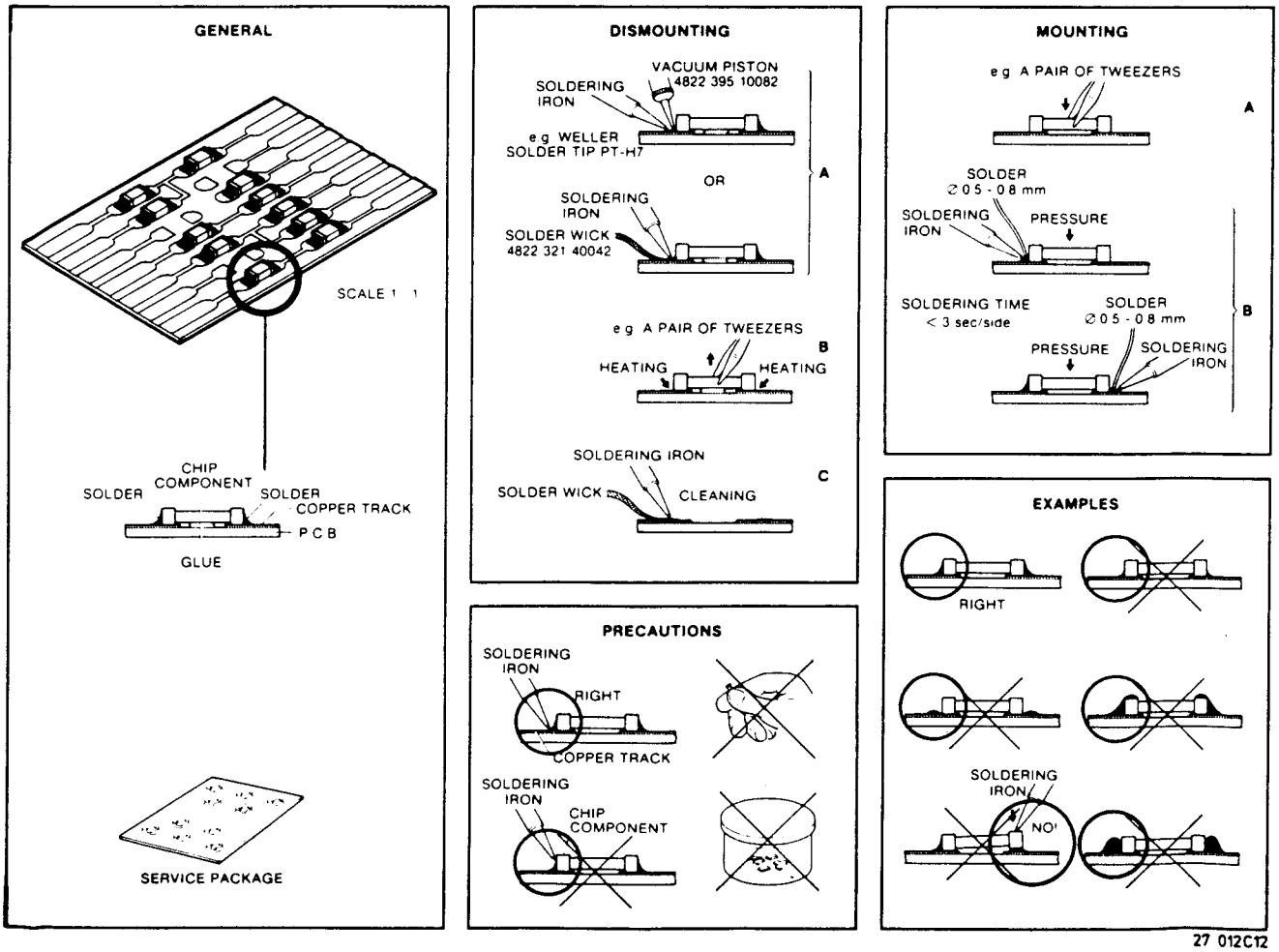
NEW ADJUSTMENT TABLE

Adjustment	Cassette	Recorder position			Measure on	Read on	Adjust with	Adjust to
		SK...	PB Deck	R/P Deck				
Azimuth	10kHz SBC 420*	Tape	Play	-	1258	mV-meter	Left hand screw play head	Max. L = R
			-	Play			Left hand screw R/P head	
Motor speed (Normal)	3150Hz SBC 420*	Tape	Play	-	1258	Wow and Flutter meter	preset in motor	**a
			-	Play			-	
Motor speed (High)	3150Hz SBC 420*	Tape HS Dubbing	Play	Record	1258	Frequency counter	-	6.4kHz ± 0.7kHz

* SBC 420 : 4822 397 30071

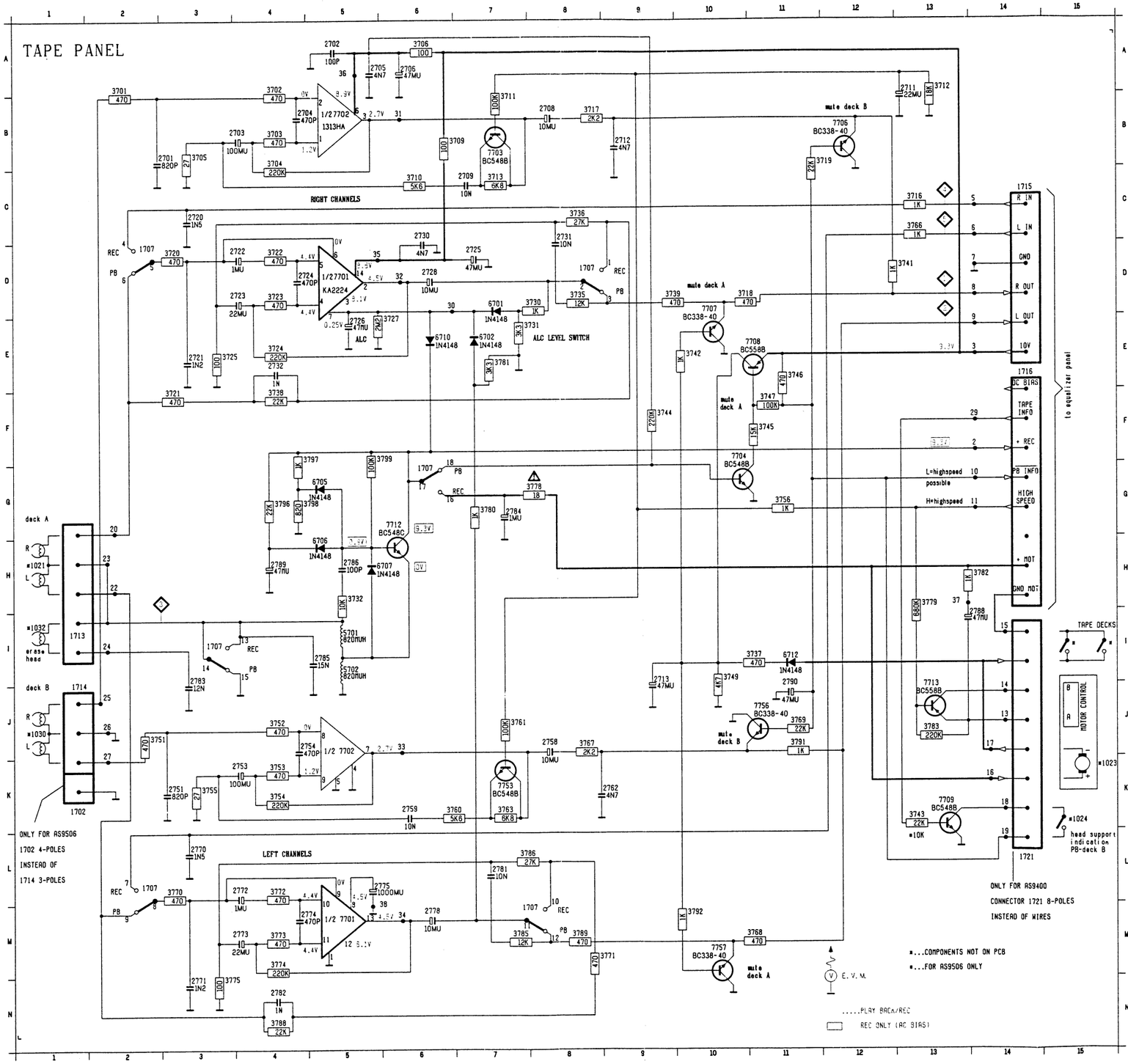
**a The maximum permissible speed deviation is 2%
Moreover, the wow and flutter value can be read.
This value should not exceeds 0.35%

HANDLING CHIP COMPONENTS



27 012C12

NEW TAPE PANEL CIRCUIT



*	I15	3770	L 3
*	I15	3771	M 8
*1021	H 1	3772	L 4
*1023	K15	3773	M 4
*1024	K15	3774	M 4
*1030	J 1	3775	N 3
*1032	I 1	3778	G 8
1702	K 1	3779	H13
1707	D 2	3780	G 7
1707	D 8	3781	E 7
1707	I 3	3782	H13
1707	G 6	3783	J13
1707	L 2	3785	M 7
1707	M 8	3786	L 7
1713	I 1	3788	N 4
1714	I 1	3789	M 8
1715	C14	3791	J11
1716	E14	3792	M10
1721	L14	3796	G 4
2701	B 2	3797	F 4
2702	A 5	3798	G 4
2703	B 4	3799	F 5
2704	B 4	5701	I 5
2705	A 5	5702	I 5
2706	A 6	6701	D 7
2708	B 8	6702	E 7
2709	C 7	6705	G 5
2711	A13	6706	H 5
2712	B 9	6707	H 5
2713	I 9	6710	E 6
2720	C 3	6712	I11
2721	E 3	7701	D 5
2722	D 4	7702	B 5
2723	D 4	7703	B 7
2724	D 4	7704	F10
2725	D 7	7706	B12
2726	E 5	7707	D10
2728	D 6	7708	E11
2730	C 6	7709	K13
2731	C 8	7712	G 6
2732	E 4	7713	J13
2751	K 3	7753	K 7
2753	K 4	7756	J11
2754	J 4	7757	M10
2758	J 8		
2759	K 6		
2762	K 8		
2770	L 3		
2771	N 3		
2772	L 4		
2773	M 4		
2774	M 4		
2775	L 5		
2778	M 6		
2781	L 7		
2782	N 4		
2783	I 3		
2784	G 7		
2785	I 5		
2786	H 5		
2788	I13		
2789	H 4		
2790	I11		
3701	A 2		
3702	A 4		
3703	B 4		
3704	B 4		
3705	B 3		
3706	A 6		
3709	B 6		
3710	C 6		
3711	B 7		
3712	A13		
3713	C 7		
3716	C13		
3717	B 8		
3718	D10		
3719	B11		
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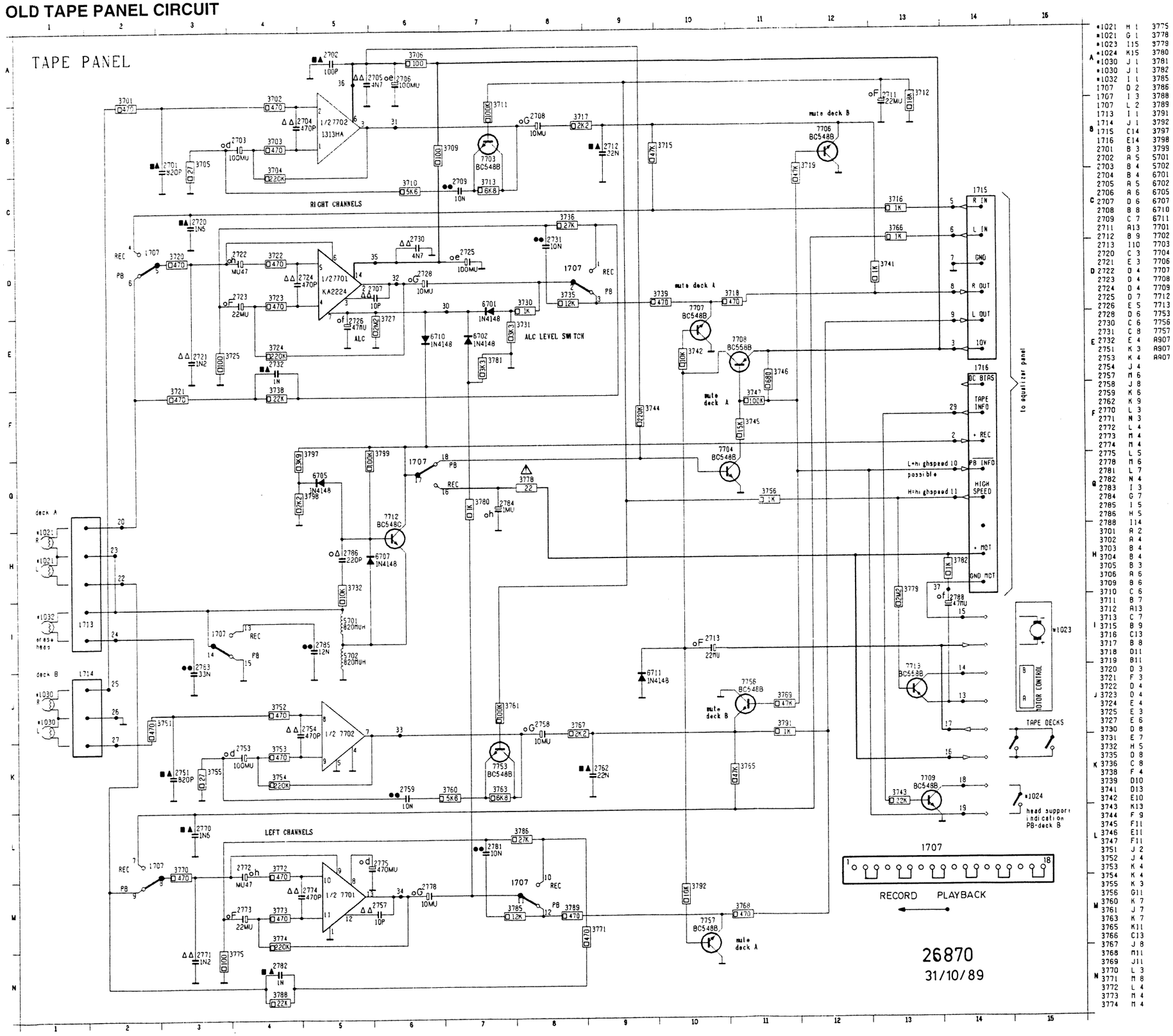
3722	D 4		
3723	D 4		
3724	E 4		
3725	E 3		
3727	E 5		
3730	D 8		
3731	E 7		
3732	H 5		
3735	D 8		
3736	C 8		
3737	I11		
3738	F 4		
3739	D 9		
3741	D12		
3742	E10		
3743	K13		
3744	F 9		
3745	F11		
3746	E11		
3747	F11		
3749	I10		
3751	J 2		
3752	J 4		
3753	K 4		
3754	K 4		
3755	K 3		
3756	G11		
3760	K 6		
3761	J 7		
3763	K 7		
3766	C13		
3767	J 8		
3768	M11		
3769	J11		

CAD-REF: ES.AZ8594.P9.AS9300.00.SH1.D06 (91-12-03)

OLD TAPE PANEL CIRCUIT



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	*1023	I 15	3779	H13		2722	D 2	2771	E 4	3704	C 3	3723
A	*1024	K 15	3780	G 7		2723	D 2	2772	F 2	3705	C 3	3724
	*1030	J 1	3781	E 7		2724	E 3	2773	F 3	3706	C 5	3725
	*1030	J 1	3782	H14		2725	D 4	2774	E 3	3709	D 4	3727
	*1032	I 1	3785	M 7		2726	E 2	2775	E 2	3710	D 2	3730
	1707	D 2	3786	L 8		2728	D 4	2778	F 4	3711	B 2	3731
	1707	I 3	3788	N 4		2730	E 4	2781	F 3	3712	B 2	3732
	1707	L 2	3789	M 8		2731	D 4	2782	E 5	3713	D 2	3735
	1713	I 1	3791	J11		2732	D 5	2783	F 5	3715	D 4	3736
B	1714	J 1	3792	M10		2751	C 3	2784	F 6	3716	C 5	3738
	1715	C14	3797	F 4		2753	C 4	2785	F 4	3717	B 4	3739
	1716	E14	3798	G 4		2754	C 3	2786	F 4	3718	B 5	3741
	2701	B 3	3799	F 5		2758	B 3	2788	B 1	3719	B 4	3742
	2702	A 5	5701	I 5		2759	B 3	3701	C 4	3720	E 4	3743
	2703	B 4	5702	I 5								
	2704	B 4	6701	D 7								
	2705	A 5	6702	E 7								
	2706	A 6	6705	G 5								
C	2707	D 6	6707	H 5								
	2708	B 8	6710	E 6								
	2709	C 7	6711	J 9								
	2711	A13	7701	D 5								
	2712	B 9	7702	B 5								
	2713	I10	7703	B 7								
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	2721	E 3	7706	B12								
D	2722	D 4	7707	D10								
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	2724	D 4	7709	K13								
	2725	D 7	7712	G 6								
	2726	E 5	7713	J13								
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	2751	K 3	A907	G 6								
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	2754	J 4										
	2757	M 6										
	2758	J 8										
	2759	K 6										
	2762	K 9										
F	2770	L 3										
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	3769	J11										
	3770	L 3										
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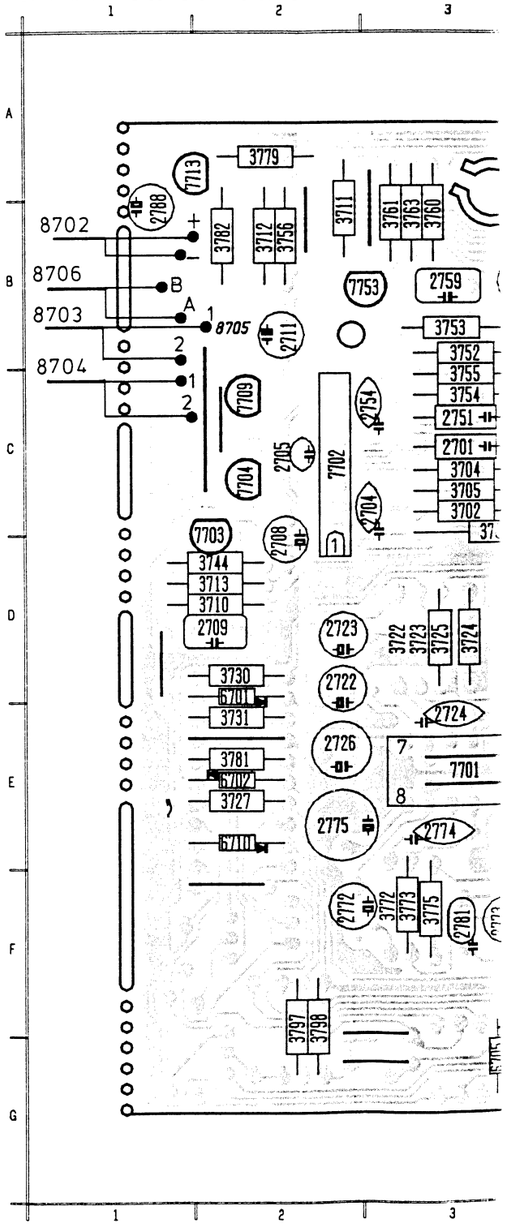
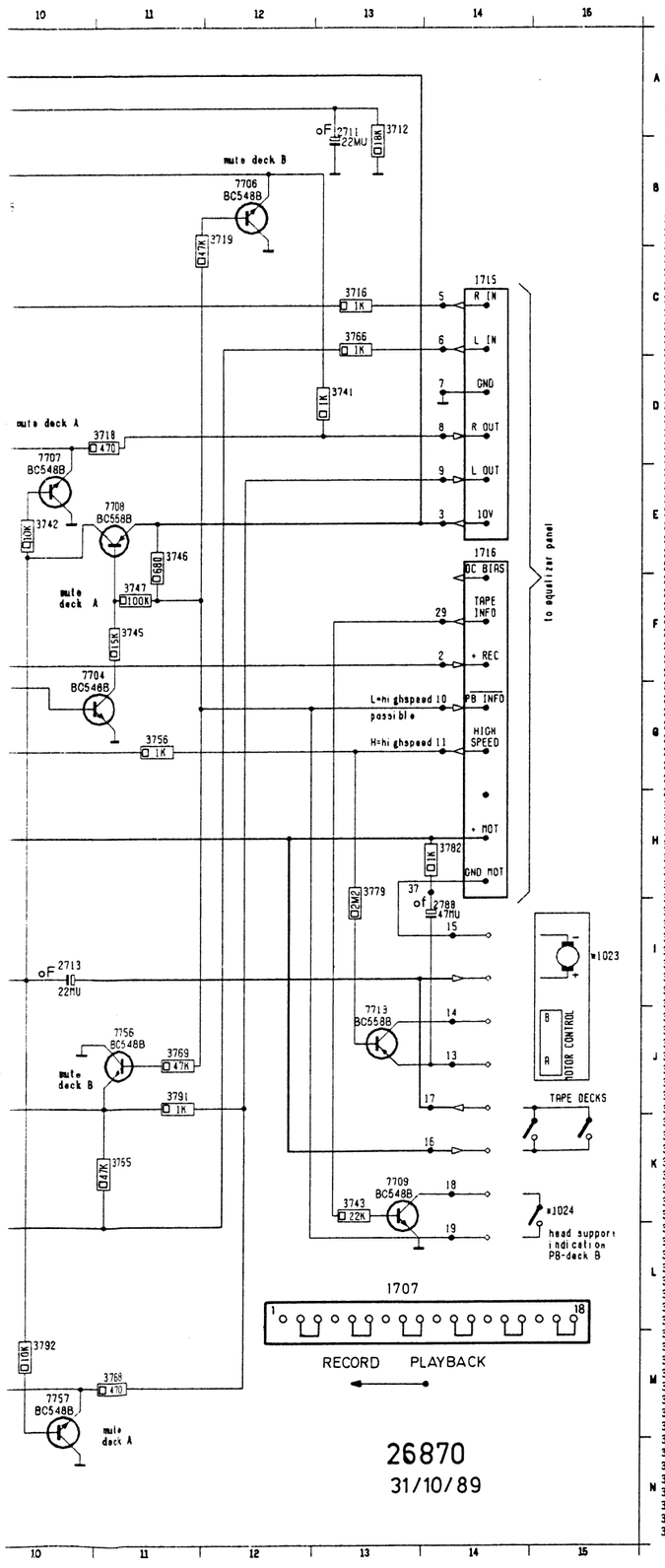
	3773	M 4										
	3774	M 4										

OLD TAPE PANEL LAYOUT



ASSEMBLY DRAWING FOR AS9300.00 ; SIDE-B
BESTUECKUNGSPLAN FUER AS9300.00 ; ANSICHT SEITE-B



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		#1021	G 1		3778	G 8		2721	E 4		2770	E 4		3703	C 3		3722	D 3		3745	B 4		3769	B 4		3791	B 5		7704	C 2
		#1023	I 15		3779	M 13		2722	D 2		2771	E 4		3704	C 3		3723	D 3		3746	A 5		3770	E 4		3792	C 4		7706	B 4
A		#1024	K 15		3780	G 7		2723	D 2		2772	F 2		3705	C 3		3724	D 3		3747	A 5		3771	E 5		3797	F 2		7707	C 4
		#1030	J 1		3781	E 7		2724	E 3		2773	F 3		3706	C 5		3725	D 3		3751	C 4		3772	F 3		3798	F 2		7708	B 5
		#1030	J 1		3782	H 14		2725	D 4		2774	E 3		3709	D 4		3727	E 2		3752	B 3		3773	F 3		3799	G 4		7709	C 2
		#1032	I 1		3785	M 7		2726	E 2		2775	E 2		3710	D 2		3730	D 2		3753	B 3		3774	F 4		5701	F 5		7712	F 4
		1707	D 2		3786	L 8		2728	D 4		2778	F 4		3711	B 2		3731	E 2		3754	C 3		3775	F 3		5702	F 5		7713	A 2
		1707	I 3		3788	N 4		2730	E 4		2781	F 3		3712	B 2		3732	G 4		3755	C 3		3778	D 6		6701	D 2		7753	B 3
		1707	L 2		3789	M 8		2731	D 4		2782	E 5		3713	D 2		3735	D 4		3756	B 2		3779	A 2		6702	E 2		7756	B 4
		1713	I 1		3791	J 11		2732	D 5		2783	F 5		3715	D 4		3736	D 4		3760	B 3		3780	F 4		6705	G 3		7757	C 4
		1714	J 1		3792	M 10		2751	C 3		2784	F 6		3716	C 5		3738	D 5		3761	B 3		3781	E 2		6707	G 3			
B		1715	C 14		3797	F 4		2753	C 4		2785	F 4		3717	B 4		3739	D 5		3763	B 3		3782	B 2		6710	E 2			
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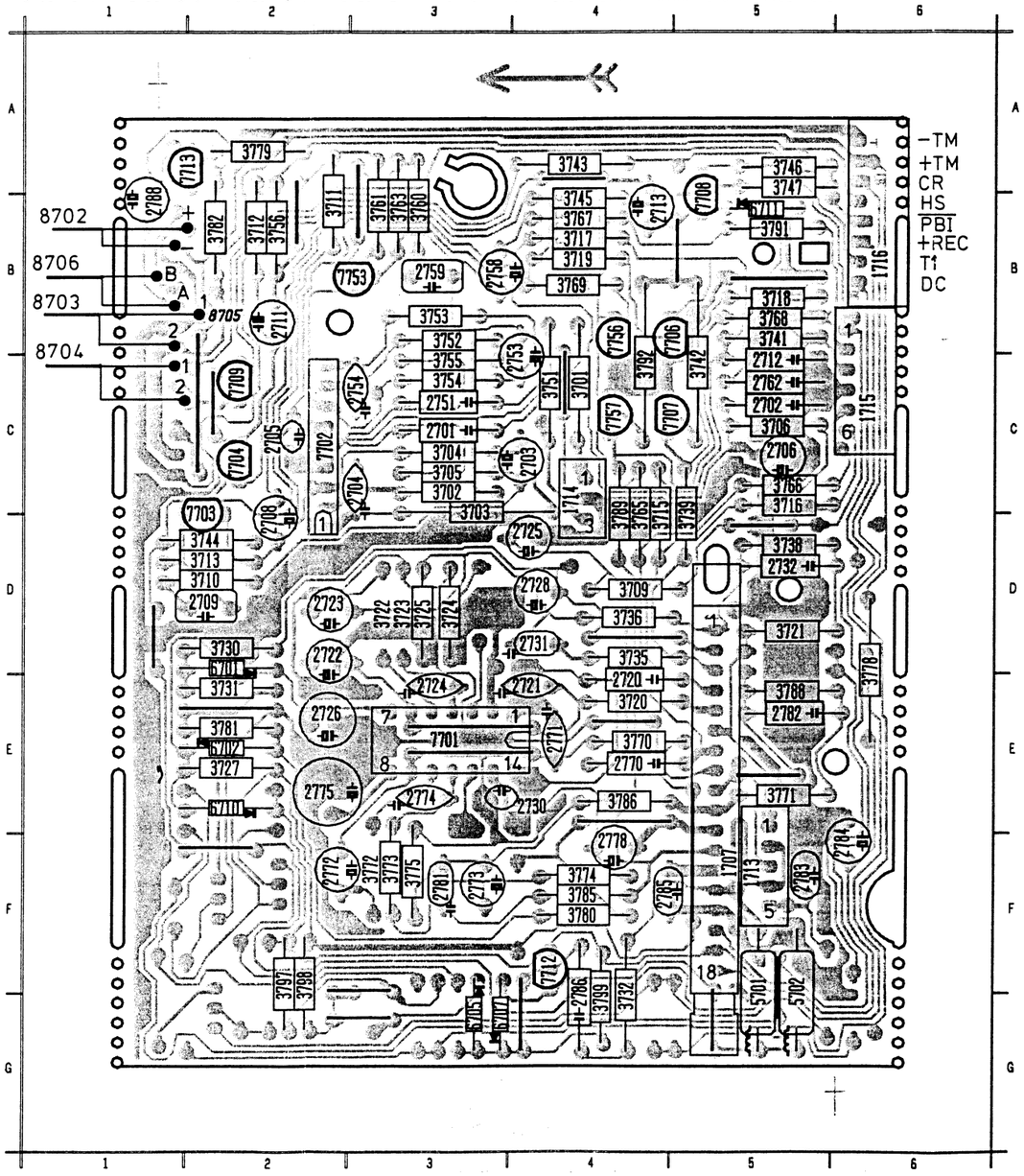
OLD TAPE PANEL LAYOUT



		8702	B 1																				
		8703	B 1																				
		8704	B 1																				
A																							
		8706	B 1																				

+T - 10.5V

7702

1 - 1.2V
2 - 0V
3 - 2.5V
4 - 0V
5 - 0V
6 - 10.2V
7 - 2.5V
8 - 0V
9 - 1.2V

7701

1 - 0V
2 - 5.2V
3 - 9.3V
4 - 5.0V
5 - 5.0V
6 - 0V
7 - 0.3V
8 - 5.0V
9 - 0V
10 - 5.0V
11 - 5.0V
12 - 9.3V
13 - 5.2V
14 - 10.0V

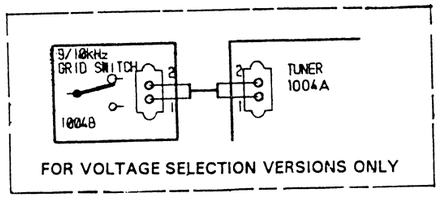
7712

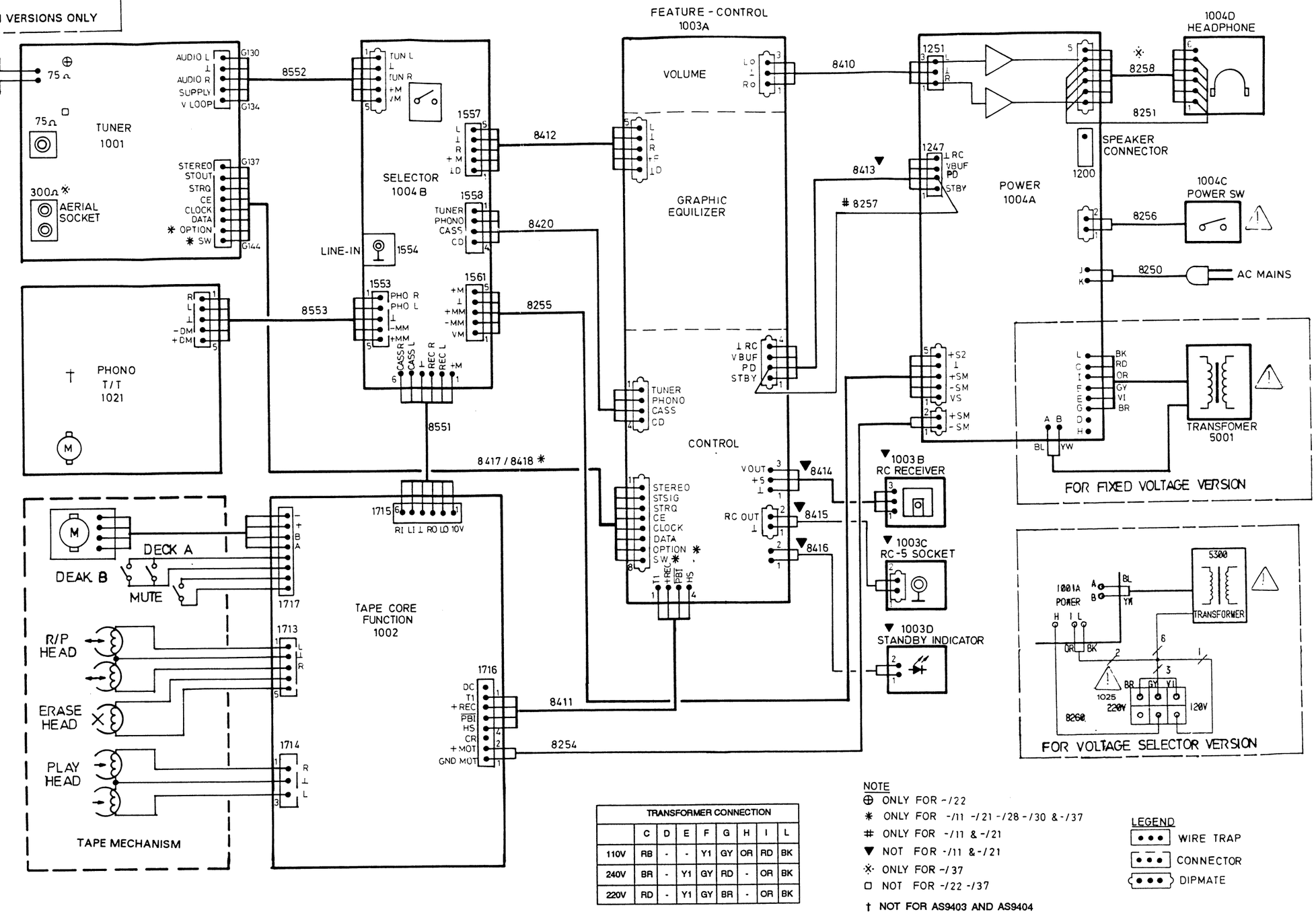
e - 0V
b - 0.9V
c - 9.5V

ASSEMBLY DRAWING FOR AS9300.00 : SIDE-B
BESTUECKUNGSPLAN FUER AS9300.00 : ANSICHT SEITE-B

26869
31/10/89

NEW WIRING DIAGRAM





TRANSFORMER CONNECTION								
	C	D	E	F	G	H	I	L
110V	RB	-	-	Y1	GY	OR	RD	BK
240V	BR	-	Y1	GY	RD	-	OR	BK
220V	RD	-	Y1	GY	BR	-	OR	BK

NOTE
- ⊕ ONLY FOR -/22
- * ONLY FOR -/11 -/21 -/28 -/30 &-/37
- # ONLY FOR -/11 &-/21
- ▼ NOT FOR -/11 &-/21
- ※ ONLY FOR -/37
- □ NOT FOR -/22 -/37
- † NOT FOR AS9403 AND AS9404

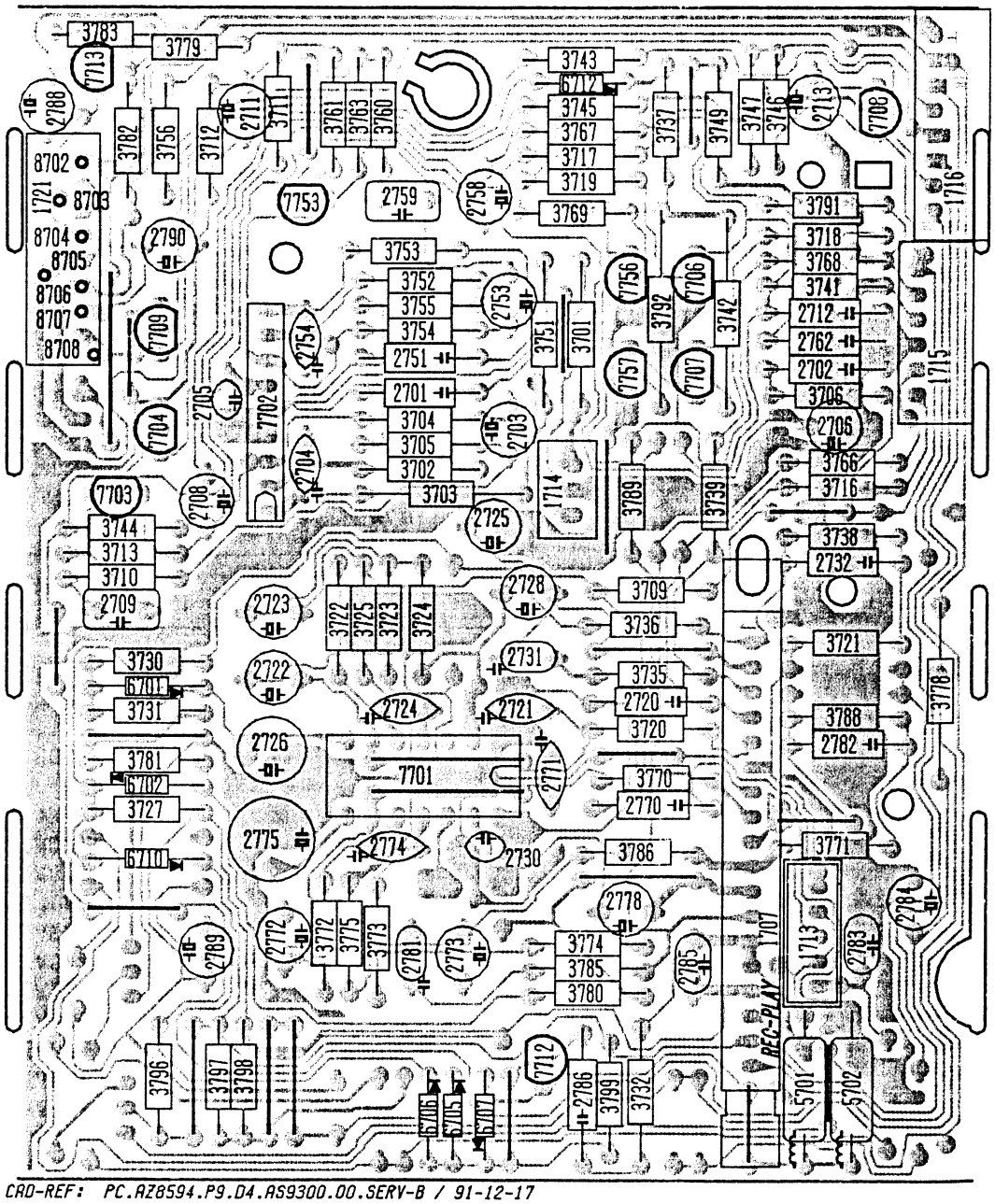
LEGEND
- WIRE TRAP
- CONNECTOR
- DIPMATE

NEW TAPE PANEL LAYOUT

1707	F 5	2720	E 4	2770	E 4	3702	C 3	3723	D 3	3746	B 5	3771	E 5	3796	F 2	7705	B 4		
1713	F 5	2721	E 4	2771	E 4	3703	C 3	3724	D 3	3747	B 5	3772	F 3	3797	F 2	7707	C 4		
1714	C 4	2722	D 2	2772	F 2	3704	C 3	3725	D 3	3749	B 5	3773	F 3	3798	F 2	7708	B 5		
1715	C 6	2723	D 2	2773	F 3	3705	C 3	3727	E 2	3751	C 4	3774	F 4	3799	G 4	7709	C 2		
1716	B 6	2724	E 3	2774	E 3	3706	C 5	3730	D 2	3752	B 3	3775	F 3	5701	F 5	7712	F 4		
1721	B 1	2725	D 3	2775	E 2	3709	D 4	3731	E 2	3753	B 3	3778	D 6	5702	F 5	7713	A 1		
2701	C 3	2726	E 2	2778	F 4	3710	D 2	3732	G 4	3754	C 3	3779	A 2	6701	D 2	7753	B 3		
2702	C 5	2728	D 4	2781	F 3	3711	B 2	3735	D 4	3755	C 3	3780	F 4	6702	E 2	7756	B 4		
2703	C 4	2730	E 4	2782	E 5	3712	B 2	3736	D 4	3756	B 2	3781	E 2	6705	G 3	7757	C 4		
2704	C 3	2731	D 4	2783	F 5	3713	D 2	3737	B 4	3760	B 3	3782	B 2	6706	G 3	8702	B 1		
2705	C 2	2732	D 5	2784	F 6	3716	C 5	3738	D 5	3761	B 3	3783	A 2	6707	G 3	8703	B 1		
2706	C 5	2751	C 3	2785	F 4	3717	B 4	3739	D 5	3763	B 3	3785	F 4	6710	E 2	8704	B 1		
2708	D 2	2753	C 4	2786	F 4	3718	B 5	3741	B 5	3766	C 5	3786	E 4	6712	A 4	8705	B 1		
2709	D 2	2754	C 3	2788	B 1	3719	B 4	3742	C 5	3767	B 4	3788	E 5	7701	E 3	8706	B 1		
2711	B 2	2758	B 3	2789	F 2	3720	E 4	3743	A 4	3768	B 5	3789	D 4	7702	C 2	8707	C 1		
2712	C 5	2759	B 3	2790	B 2	3721	D 5	3744	D 2	3769	B 4	3791	B 5	7703	C 2	8708	C 1		
2713	B 5	2762	C 5	3701	C 4	3722	D 3	3745	B 4	3770	E 4	3792	C 4	7704	C 2				

1 2 3 4 5 6

TAPE UNIT BOARD / COMPONENTSIDE VIEW / AS9300



CRD-REF: PC.AZ8594.P9.D4.AS9300.00.SERV-B / 91-12-17

A B C D E F G

1 2 3 4 5 6

NEW TUNER BOARD LAYOUT

1100	B 3	3171	D 6
1102	E 6	3173	B 4
1103	E 6	5101	C 3
1104	A 7	5102	B 4
1105	A 7	5103	B 4
1106	A 7	5104	C 5
1107	A 7	5105	D 3
2100	B 3	5106	B 7
2103	D 3	5107	D 5
2109	B 4	5107	B 6
2111	B 5	5107	C 6
2119	C 5	5108	C 6
2123	D 4	5109	C 6
2130	D 5	5110	E 5
2131	D 5	5111	B 6
2134	D 4	5112	C 7
2135	D 4	5113	C 5
2137	C 5	5114	C 7
2139	B 7	5115	E 6
2141	B 7	6104	E 4
2144	D 4	6105	D 4
2146	B 5	6107	C 6
2150	E 4	7101	C 4
2151	E 4	7102	C 4
2152	D 5	7103	C 5
2153	D 4	7104	B 6
2155	B 7	7105	C 7
2158	C 8	7106	D 6
2161	C 6	7107	D 5
2165	C 6	7108	E 5
2167	E 7	7109	E 5
2168	D 6	7110	C 7
2170	D 7	7112	D 4
2172	D 6	8031	D 7
2173	D 7	9101	E 7
2176	E 6	9102	D 8
2177	E 6	9103	D 8
2182	B 7	9105	B 8
3105	C 4	9106	D 7
3106	C 4	9107	D 7
3107	B 4	9109	E 6
3108	C 4	9110	C 7
3109	B 4	9111	E 6
3111	B 5	9112	B 6
3114	C 4	9115	C 6
3116	D 4	9116	D 6
3120	C 8	9117	C 6
3125	D 6	9118	B 6
3126	E 5	9119	B 5
3128	D 4	9120	E 6
3131	D 8	9121	B 5
3132	B 6	9122	D 5
3134	B 5	9123	D 5
3135	C 8	9124	D 5
3139	B 7	9125	D 4
3141	E 7	9128	E 4
3142	E 7	9129	C 4
3143	D 7	9134	E 8
3145	E 6	WIRE	D 7
3147	B 7		
3148	D 8		
3149	D 8		
3150	D 8		
3151	D 8		
3153	E 8		

#: ONLY AUTOSTORE SETS

FTZ /02

AS 9400
AS 9500
AS 9600

1104 COVER 1
1105 FRAME
1106 COVER 2
1107 SCREENING PLATE

MEDIUM WAVE
LONG WAVE
TEXT
MANUEL INSERTION

3104-217-24450 PUNT 9

3104-217-24450 PUNT

1104 COVER 1
1105 FRAME
1106 COVER 2
1107 SCREENING PLATE

MANUEL INSERTION

MEDIUM WAVE
LONG WAVE

3104-217-24450 PUNT 9

3104-217-24450 PUNT 9

: ONLY FOR AUTOSTORE SETS

AS 9400 , AS 405
AS 9500 , AS 501
AS 9600

FTZ /02

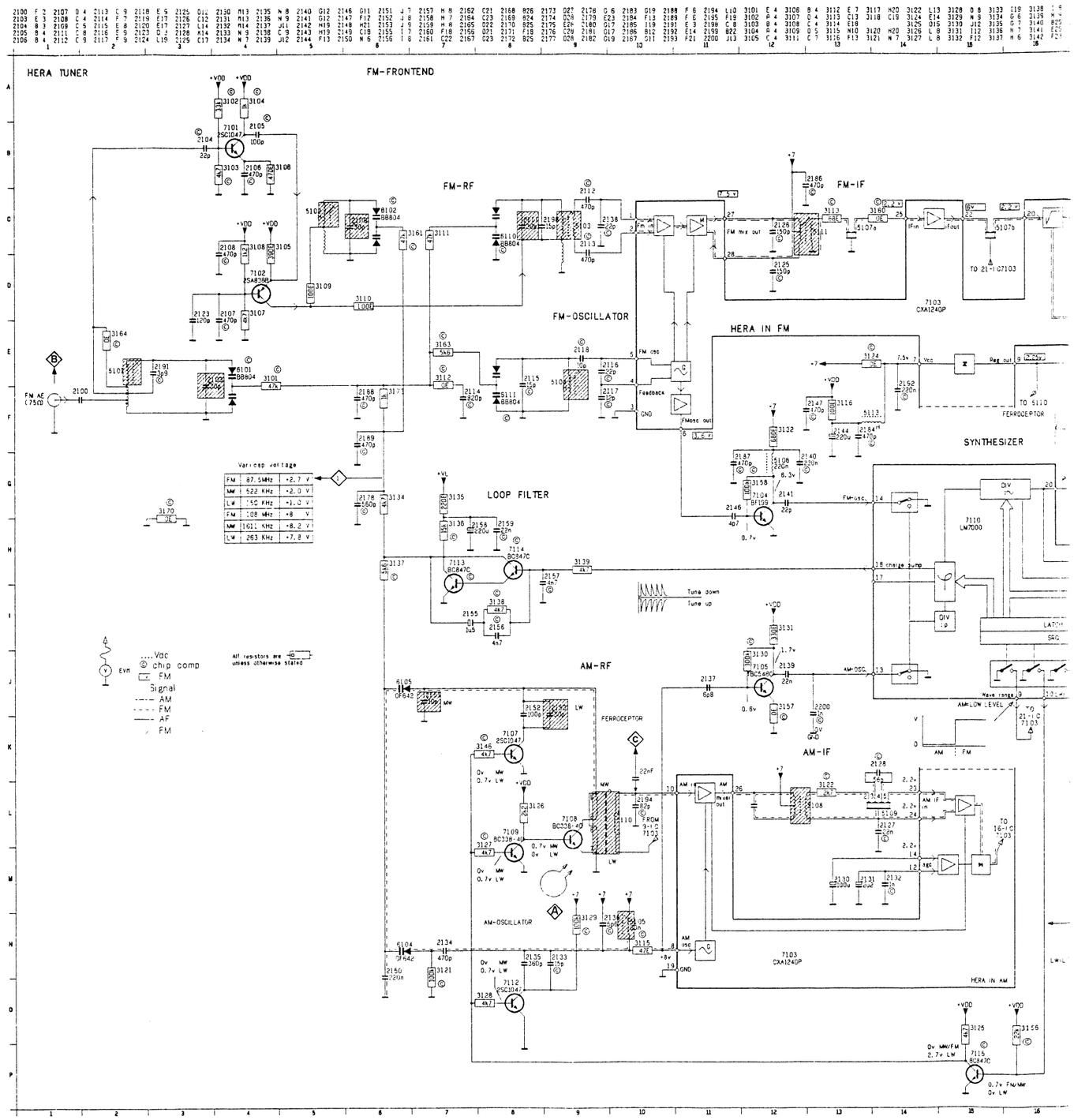
2104	C 5	3113	B 3
2105	C 5	3115	D 5
2106	B 5	3117	C 2
2107	B 5	3118	C 4
2108	D 6	3119	C 4
A 2112	B 5	3121	D 5
2113	B 5	3122	C 3
2114	C 5	3124	B 4
2115	C 4	3127	D 4
2116	B 4	3129	D 5
2117	B 4	3130	C 2
2118	C 4	3133	C 2
2120	C 4	3136	B 1
2124	D 2	3137	E 4
2125	B 3	3138	B 1
B 2126	B 3	3140	D 3
2127	B 3	3144	D 3
2128	C 3	3146	D 4
2129	C 3	3156	B 1
2132	C 4	3157	C 3
2133	D 5	3158	B 3
2136	D 6	3160	B 3
2138	B 4	3161	B 5
2140	B 3	3162	C 2
2142	B 2	3163	B 4
2143	B 2	3164	C 6
C 2147	D 3	3170	B 5
2148	D 3	3172	D 2
2149	C 4	6101	C 5
2156	B 2	6102	B 5
2157	B 2	6110	B 4
2159	B 1	6111	B 4
2160	C 1	7111	C 2
2162	C 3	7113	B 2
2164	E 3	7114	B 2
2166	C 3	7115	B 2
2169	D 3	7116	D 2
D 2171	B 2		
2174	E 3		
2175	E 3		
2178	B 4		
2179	E 2		
2180	C 2		
2181	C 2		
2183	C 2		
2184	C 4		
2185	C 2		
2186	B 3		
E 2187	B 3		
2188	B 5		
2189	B 6		
2191	C 5		
2192	C 4		
2193	C 4		
2194	C 4		
2195	C 1		
2198	B 4		
2199	D 3		
2200	B 2		
F 3101	C 5		
3102	C 5		
3103	D 5		
3104	C 5		
3112	B 5		

SK...	FREQUENCY	I/P	DISPLAY	ADJUST	O/P	SCOPE/METER
Varicap alignment						
FM 87.5-108MHz			108MHz	5104	1	8.0V (10.0V)
			87.5MHz	check		2.7V ± 0.4V (1.15V ± 0.25V)
LW 148-284kHz			284kHz 148kHz	5105 check	1	7.8V 1.0V ± 0.25V
MW 522-1611kHz			1611kHz 522kHz	check check		8.0V ± 0.5V 2.0V ± 0.3V
FM-IF						
FM	108MHz △f=500kHz (50Hz)	B	108MHz	5111	4	Symm + Linear
FM-RF						
FM	87.5MHz mod = 1kHz △f = 22.5kHz	B	87.5MHz	5103 (5102) (5101)	4	max.
	108MHz mod = 1kHz △f = 22.5kHz		108MHz	2111 (2109) (2103)		
Stereo decoder / Search sensitivity						
FM	98MHz carrier 1mV	B	98MHz	3145 #	3	19 ± 0.05kHz
	98MHz carrier 12µV			3114	2	5V 0V
AM-IF						
LW	450kHz $ △f = 10kHz (50Hz)	C	284kHz	5108	4	Symmetrical max fo
AM-RF						
MW	603kHz * 1494kHz *	A	603kHz 1494kHz	5110 2151	4	max.
LW	155kHz * 275kHz *		155kHz 275kHz	5110 2153		

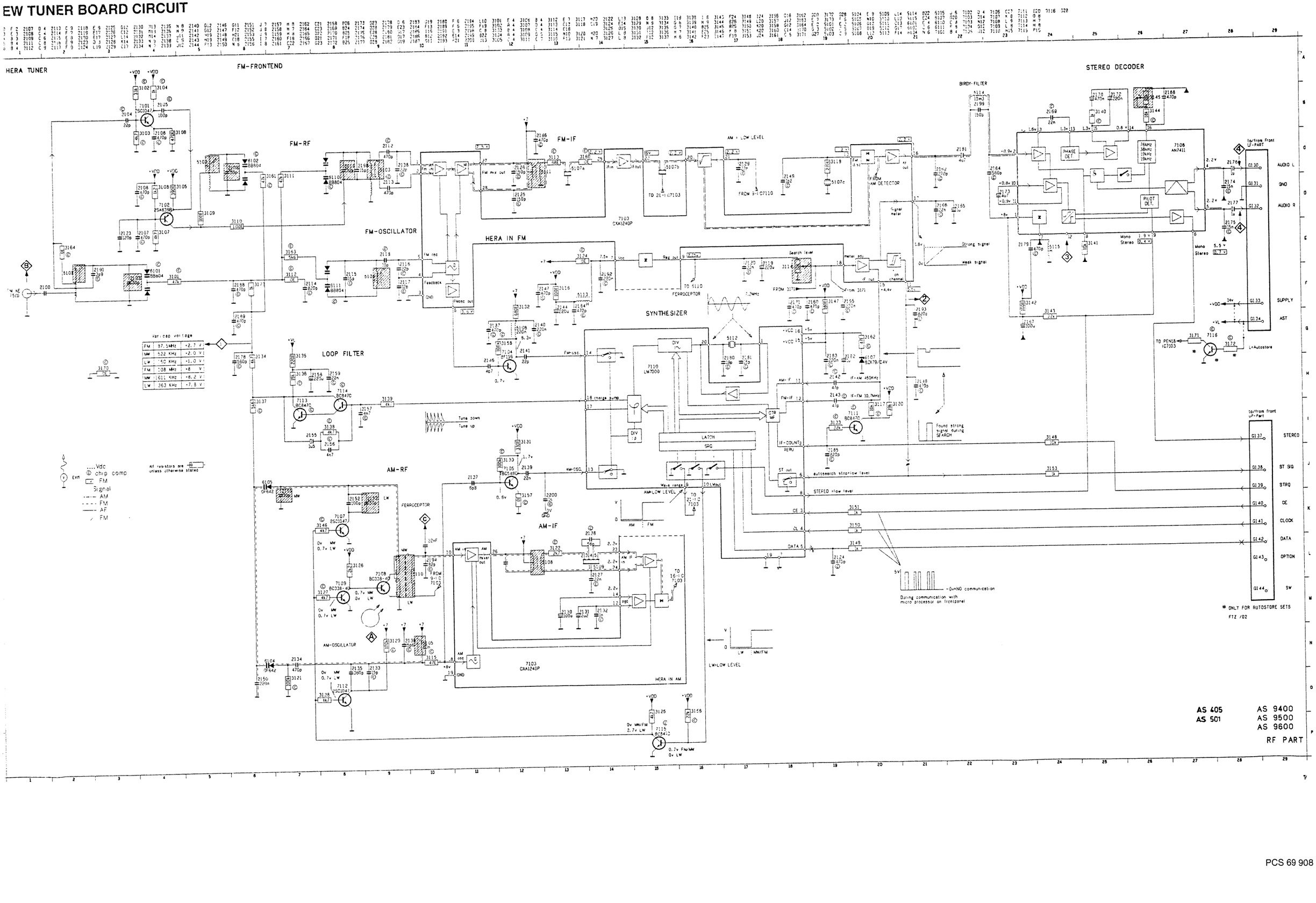
* Mod 1kHz 30% AM
$ via 100nF
(..) For FTZ versions only
Temporary ground pin 9 of 7106

↕ Repeat

NEW TUNER BOARD CIRCUIT



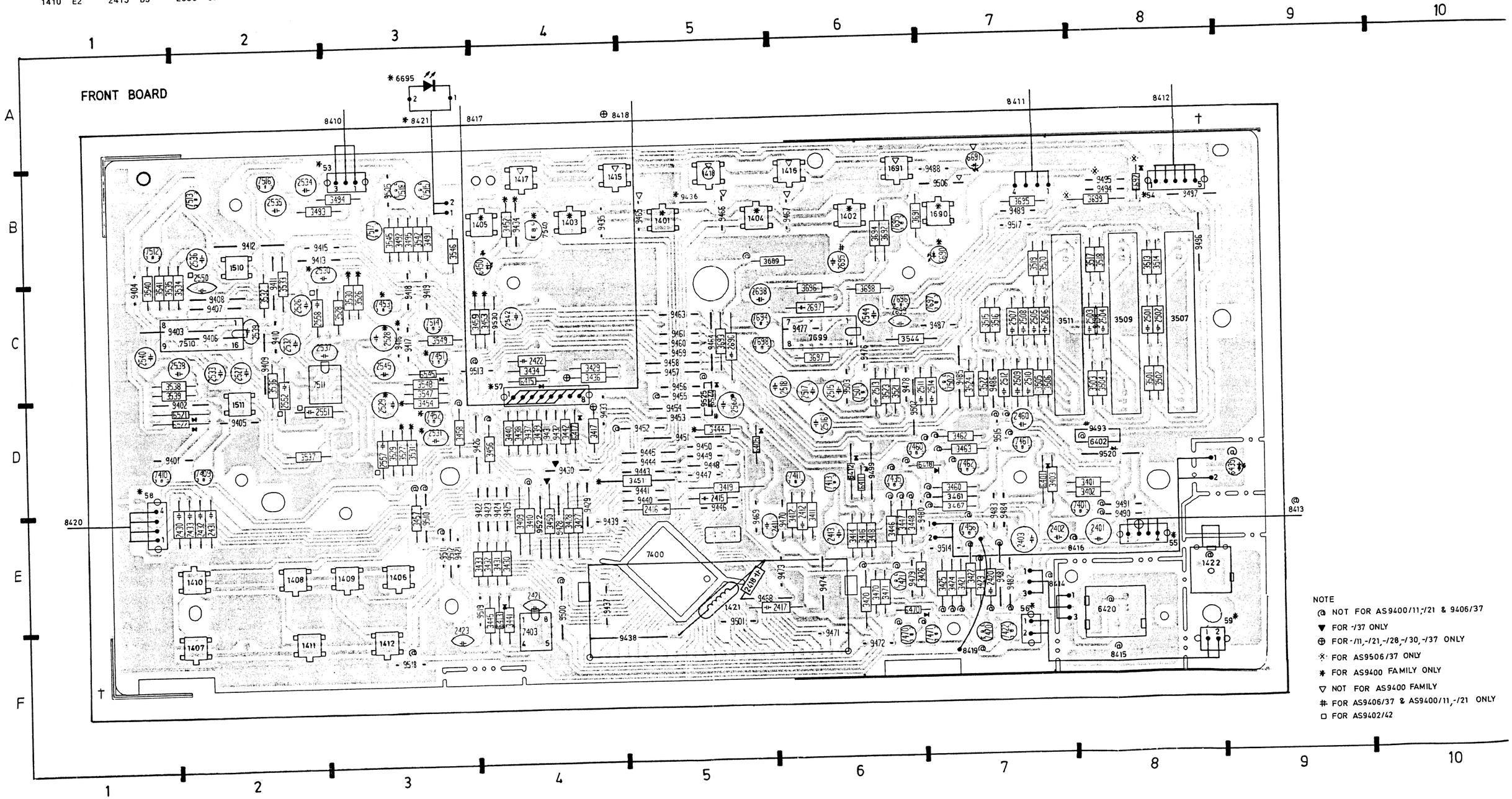
EW TUNER BOARD CIRCUIT



PCS 69 908

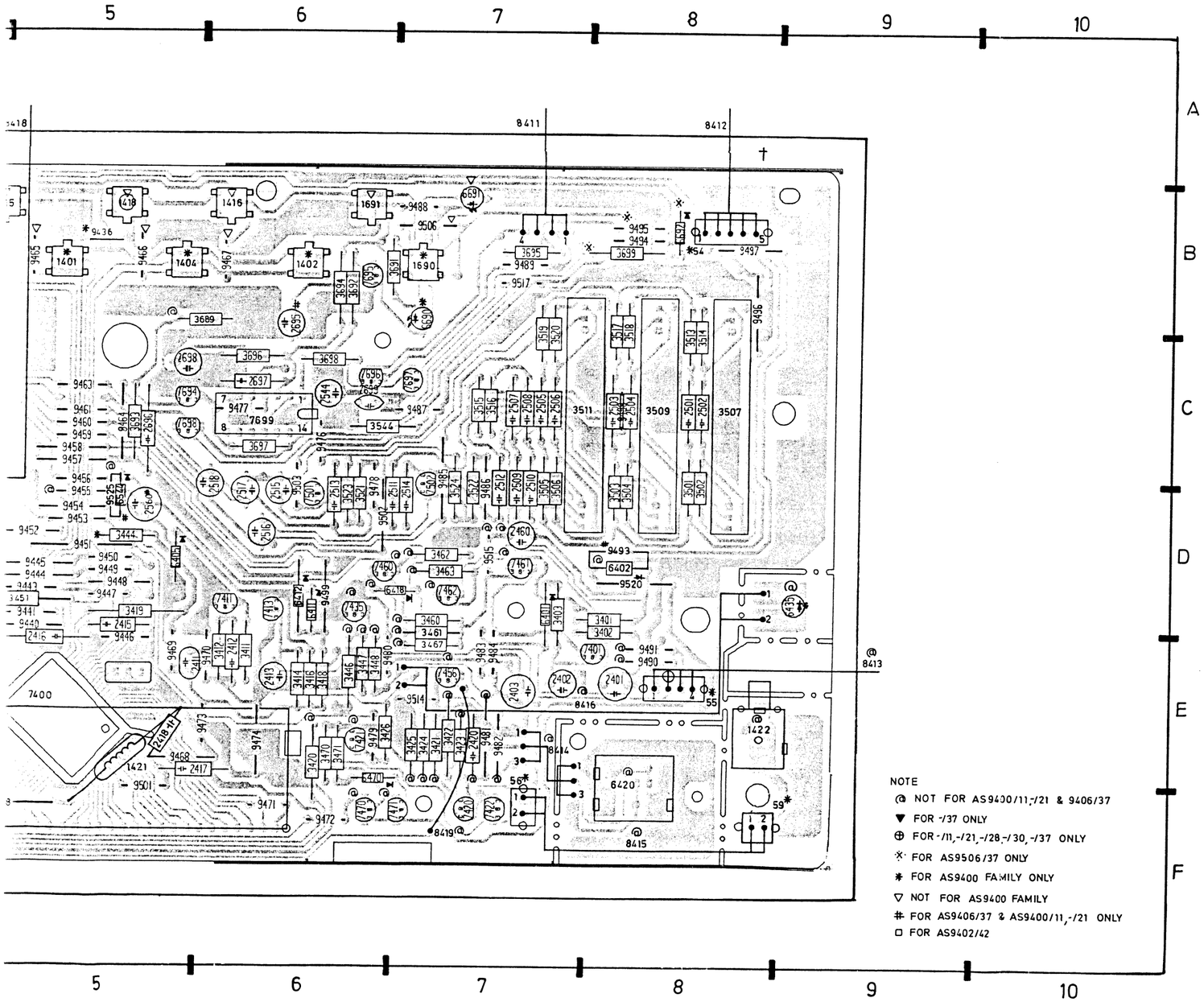
OLD FEATURE BOARD LAYOUT

53	A3	1411	F2	2416	E5	2507	C7	2533	C2	2698	C5	3424	E7	3444	D5	3467	E7	3515	C7	3534	C2	3694	B6	6521	D2	7453	C3	7695	B6	9402	C2	9422	E4	9446	E5	9467	B6	9487	C7	9510	E3
54	B8	1412	F3	2417	E5	2508	C7	2534	B2	2699	C6	3425	E7	3445	E4	3470	E6	3516	C7	3535	C2	3695	B7	6522	D2	7456	E7	7696	C6	9403	C2	9423	E4	9447	D5	9468	E5	9488	B7	9511	E3
55	E8	1415	B4	2418	E5	2509	D7	2535	B2	3401	D8	3426	E7	3446	E6	3471	E6	3517	C8	3536	C2	3696	C6	6545	C3	7460	D7	7697	C7	9404	B1	9424	E4	9448	D5	9469	E5	9489	B7	9512	E3
56	E7	1417	B4	2420	E7	2510	D7	2536	B2	3402	D8	3427	E4	3447	E6	3491	B3	3518	C8	3537	D2	3697	C6	6690	B7	7461	D7	7698	C5	9405	D2	9425	E4	9449	D5	9470	E6	9490	E8	9513	C4
57	C4	1418	B5	2421	E4	2511	D7	2537	C2	3403	D7	3428	E4	3448	E6	3492	B3	3519	C7	3538	C2	3698	C6	6691	B7	7462	D7	7699	C6	9406	C2	9426	D4	9450	D5	9471	F6	9491	E8	9514	E7
58	D1	1421	E5	2422	C4	2512	D7	2538	C2	3409	E4	3429	C4	3450	E4	3493	B2	3520	C7	3539	C2	3699	D8	6692	B8	7470	F6	8410	A3	9407	C2	9428	E4	9451	D5	9472	F6	9493	D8	9515	D7
59	F9	1422	E8	2423	F3	2514	D7	2539	C2	3410	E4	3430	E4	3451	D5	3494	B3	3521	D6	3540	B1	6401	D7	6695	A3	7471	F7	8411	A7	9408	C2	9429	E4	9452	D5	9473	E6	9494	B8	9517	B7
1401	B5	1510	B2	2430	E2	2515	D6	2540	C1	3411	E6	3431	E4	3452	B4	3495	B3	3522	D7	3541	B1	6402	D8	7400	E5	7501	D6	8412	A8	9409	C2	9430	D4	9455	D5	9474	E6	9495	B8	9518	F3
1401	F2	1511	C2	2431	E2	2516	D6	2542	C4	3412	E6	3432	E4	3453	C4	3501	D8	3523	D6	3542	B3	6405	D5	7403	E4	7502	D7	8413	E9	9410	C2	9433	D4	9456	C5	9476	C6	9496	B8	9519	E4
1402	B6	1690	B7	2432	E2	2517	D6	2544	C6	3414	E6	3433	E4	3454	D3	3502	D8	3524	D7	3544	C7	6411	D6	7409	D2	7511	C2	8414	E7	9411	C2	9434	B4	9457	C5	9477	C6	9497	B8	9520	D8
1403	B4	1691	B6	2433	E2	2518	D6	2545	C3	3416	E6	3434	C4	3456	D4	3503	D8	3526	C3	3545	B3	6412	D6	7411	D6	7512	B1	8415	F8	9412	B2	9435	B4	9458	C5	9478	D6	9498	C8	9522	E4
1404	B5	2401	E8	2460	D7	2526	B2	2550	B2	3417	D4	3436	C4	3457	E3	3504	D8	3527	D3	3546	B3	6413	E4	7413	D6	7514	C3	8416	E7	9413	B2	9436	B5	9459	C5	9479	E6	9499	D6	9530	C4
1405	B4	2402	E7	2501	C8	2527	C2	2551	D2	3418	E6	3437	D4	3458	D3	3505	D7	3528	C3	3547	D3	6417	D4	7420	F7	7515	B3	8417	A4	9415	B2	9438	F4	9460	C5	9481	E7	9500	E4		
1406	E3	2403	E7	2502	C8	2528	C3	2552	C2	3419	D5	3438	D4	3459	C4	3506	D7	3529	D3	3548	C3	6418	D7	7421	E6	7516	C2	8418	A4	9416	C3	9439	E4	9461	C5	9482	E7	9501	E5		
1408	E2	2411	E5	2503	C8	2529	D3	2558	C2	3420	E6	3439	D4	3460	D7	3507	C8	3530	C3	3689	B5	6420	E8	7422	F7	7517	B3	8419	F7	9417	C3	9440	D5	9462	C5	9483	E7	9502	D7		
1409	E3	2412	E6	2504	C8	2530	B2	2695	C6	3421	E7	3440	D4	3461	E7	3509	C8	3531	D3	3691	B7	6435	D9	7435	D6	7518	B3	8420	D1	9418	C3	9441	D5	9463	C5	9484	E7	9503	D6		
1410	B6	2413	E6	2505	C7	2531	D3	2696	C5	3422	E7	3441	E4	3462	D7	3514	C8	3532	C2	3692	B6	6450	B4	7451	C3	7540	B4	8421	A3	9419	C3	9444	D5	9464	C5	9485	D7	9505	B3		
1410	E2	2415	D5	2506	C7	2532	C2	2697	C6	3423	E7	3442	D4	3463	D7	3533	C2	3693	C5	6470	E6	7452	D3	7694	C5	9401	D2	9421	E3	9445	D5	9466	B5	9486	D7	9506	B7		



PCS 69 897

E7	3515	C7	3534	C2	3694	B6	6521	D2	7453	C3	7695	B6	9402	C2	9422	E4	9446	E5	9467	B6	9487	C7	9510	E3
E6	3516	C7	3535	C2	3695	B7	6522	D2	7456	E7	7696	C6	9403	C2	9423	E4	9447	D5	9468	E5	9488	B7	9511	E3
E6	3517	C8	3536	C2	3696	C6	6545	C3	7460	D7	7697	C7	9404	B1	9424	E4	9448	D5	9469	E5	9489	B7	9512	E3
B3	3518	C8	3537	D2	3697	C6	6690	B7	7461	D7	7698	C5	9405	D2	9425	E4	9449	D5	9470	E6	9490	E8	9513	C4
B3	3519	C7	3538	C2	3698	C6	6691	B7	7462	D7	7699	C6	9406	C2	9426	D4	9450	D5	9471	F6	9491	E8	9514	E7
B2	3520	C7	3539	C2	3699	D8	6692	B8	7470	F6	8410	A3	9407	C2	9428	E4	9451	D5	9472	F6	9493	D8	9515	D7
B3	3521	D6	3540	B1	6401	D7	6695	A3	7471	F7	8411	A7	9408	C2	9429	E4	9452	D5	9473	E6	9494	B8	9517	B7
B3	3522	D7	3541	B1	6402	D8	7400	E5	7501	D6	8412	A8	9409	C2	9430	D4	9455	D5	9474	E6	9495	B8	9518	F3
D8	3523	D6	3542	B3	6405	D5	7403	E4	7502	D7	8413	E9	9410	C2	9433	D4	9456	C5	9476	C6	9496	B8	9519	E4
D8	3524	D7	3544	C7	6411	D6	7409	D2	7511	C2	8414	E7	9411	C2	9434	B4	9457	C5	9477	C6	9497	B8	9520	D8
D8	3526	C3	3545	B3	6412	D6	7411	D6	7512	B1	8415	F8	9412	B2	9435	B4	9458	C5	9478	D6	9498	C8	9522	E4
D8	3527	D3	3546	B3	6413	E4	7413	D6	7514	C3	8416	E7	9413	B2	9436	B5	9459	C5	9479	E6	9499	D6	9530	C4
D7	3528	C3	3547	D3	6417	D4	7420	F7	7515	B3	8417	A4	9415	B2	9438	F4	9460	C5	9481	E7	9500	E4		
D7	3529	D3	3548	C3	6418	D7	7421	E6	7516	C2	8418	A4	9416	C3	9439	E4	9461	C5	9482	E7	9501	E5		
C8	3530	C3	3689	B5	6420	E8	7422	F7	7517	B3	8419	F7	9417	C3	9440	D5	9463	C5	9483	E7	9502	D7		
C8	3531	D3	3691	B7	6435	D9	7435	D6	7518	B3	8420	D1	9418	C3	9441	D5	9464	C5	9484	E7	9503	D6		
C8	3532	C2	3692	B6	6450	B4	7451	C3	7540	B4	8421	A3	9419	C3	9444	D5	9465	B5	9485	D7	9505	B3		
C8	3533	C2	3693	C5	6470	E6	7452	D3	7694	C5	9401	D2	9421	E3	9445	D5	9466	B5	9486	D7	9506	B7		



+5 - 5V
+F - 8V
+G - 10.4V

7510

1	- 0V
2	- 4.0V
3	- 4.0V
4	- 4.0V
5	- 4.0V
6	- 4.0V
7	- 8.0V
8	- 6.9V
9	- 8.0V
10	- 8.0V
11	- 4.0V
12	- 4.0V
13	- 4.0V
14	- 4.0V
15	- 4.0V
16	- 8.0V

7511

1	- 4.0V
2	- 4.0V
3	- 4.0V
4	- 0V
5	- 4.0V
6	- 4.0V
7	- 4.0V
8	- 8.0V

7401

e	- 5.2V
b	- 5.8V
c	- 9.7V

7501

e	- 0V
b	- 0.6V
c	- 4.0V

7502

e	- 0V
b	- 0.6V
c	- 4.0V

7470

e	- 10.2V
b	- 9.5V
c	- 10.1V

7471

e	- 10.2V
b	- 9.6V
c	- 9.5V

7460

STBY ON	STBY OFF
e - 0V	0V
b - 0.7V	0V
c - 0V	17.9V

7461

STBY ON	STBY OFF
e - 4.5V	0V
b - 5.2V	0V
c - 5.6V	17.9V

7462

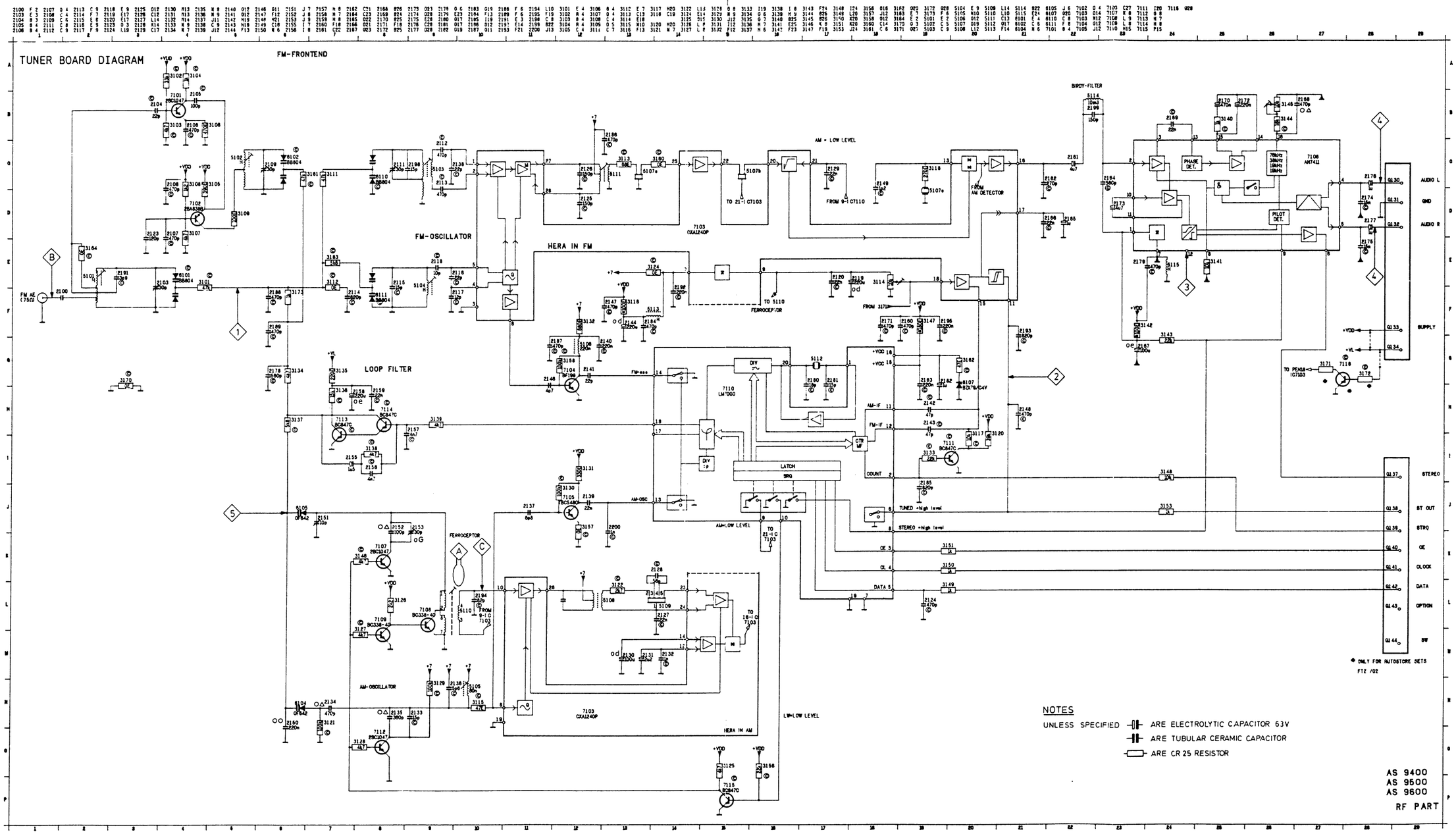
STBY ON	STBY OFF
e - 18.5V	18.0V
b - 17.7V	7.9V
c - 18.3V	9.5V

....V measured in tape position

STBY ON measured in tape position with standby on

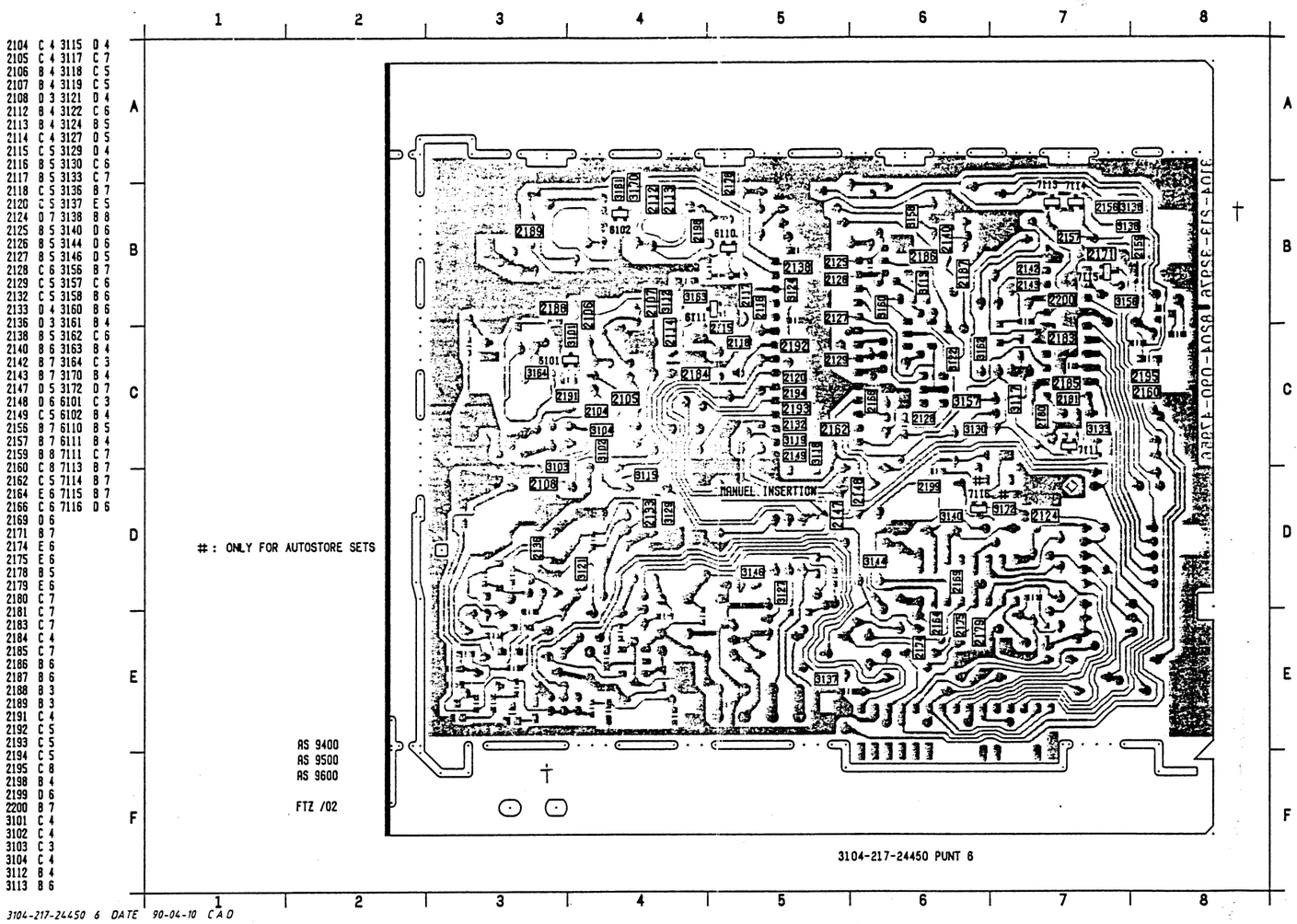
STBY OFF measured in tape position with standby off

OLD TUNER BOARD CIRCUIT



OLD TUNER BOARD LAYOUT

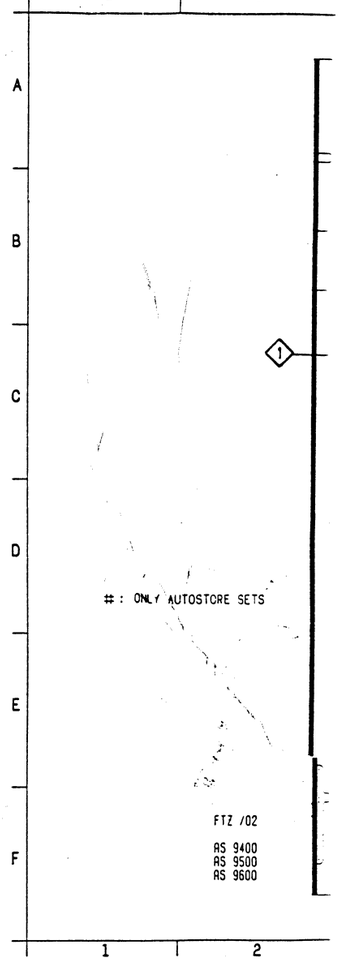
2104	C 4	3115	D 4
2105	C 4	3117	C 7
2106	B 4	3118	C 5
2107	B 4	3119	C 5
2108	D 3	3121	D 4
2112	B 4	3122	C 6
2113	B 4	3124	B 5
2114	C 4	3127	D 5
2115	C 5	3129	D 4
2116	B 5	3130	C 6
2117	B 5	3133	C 7
2118	C 5	3136	B 7
2120	C 5	3137	E 5
2124	D 7	3138	B 8
2125	B 5	3140	D 6
2126	B 5	3144	D 6
2127	B 5	3146	D 5
2128	C 6	3156	B 7
2129	C 5	3157	C 6
2132	C 5	3158	B 6
2133	D 4	3160	B 6
2136	D 3	3161	B 4
2138	B 5	3162	C 6
2140	B 6	3163	B 4
2142	B 7	3164	C 3
2143	B 7	3170	B 4
2147	D 5	3172	D 7
2148	D 6	6101	C 3
2149	C 5	6102	B 4
2156	B 7	6110	B 5
2157	B 7	6111	B 4
2159	B 8	7111	C 7
2160	C 8	7113	B 7
2162	C 5	7114	B 7
2164	E 6	7115	B 7
2166	C 6	7116	D 6
2169	D 6		
2171	B 7		
2174	E 6		
2175	E 6		
2178	B 5		
2179	E 6		
2180	C 7		
2181	C 7		
2183	C 7		
2184	C 4		
2185	C 7		
2186	B 6		
2187	B 6		
2188	B 3		
2189	B 3		
2191	C 4		
2192	C 5		
2193	C 5		
2194	C 5		
2195	C 8		
2198	B 4		
2199	D 6		
2200	B 7		
3101	C 4		
3102	C 4		
3103	C 3		
3104	C 4		
3112	B 4		
3113	B 6		



3104-217-24450 6 DATE 90-04-10 CAD

#: ONLY FOR AUTOSTORE SETS

1100	B 3	3171	D 6
1102	E 6	3173	B 4
1103	E 6	5101	C 3
1104	A 7	5102	B 4
1105	A 7	5103	B 4
1106	A 7	5104	C 5
1107	A 7	5105	D 3
2100	B 3	5106	B 7
2103	D 3	5107	D 5
2109	B 4	5107	B 6
2111	B 5	5107	C 6
2119	C 5	5108	C 6
2123	D 4	5109	C 6
2130	D 5	5110	E 5
2131	D 5	5111	B 6
2134	D 4	5112	C 7
2135	D 4	5113	C 5
2137	C 5	5114	C 7
2139	B 7	5115	E 6
2141	B 7	6104	E 4
2144	D 4	6105	D 4
2146	B 5	6107	C 6
2150	E 4	7101	C 4
2151	E 4	7102	C 4
2152	D 5	7103	C 5
2153	D 4	7104	B 6
2155	B 7	7105	C 7
2158	C 8	7106	D 6
2161	C 6	7107	D 5
2165	C 6	7108	E 5
2167	E 7	7109	E 5
2168	D 6	7110	C 7
2170	D 7	7112	D 4
2172	D 6	8031	D 7
2173	D 7	9101	E 7
2176	E 6	9102	D 8
2177	E 6	9103	D 8
2182	B 7	9105	B 8
3105	C 4	9106	D 7
3106	C 4	9107	D 7
3107	B 4	9109	E 6
3108	C 4	9110	C 7
3109	B 4	9111	E 6
3111	B 5	9112	B 6
3114	C 4	9115	C 6
3116	D 4	9116	D 6
3120	C 8	9117	C 6
3125	D 6	9118	B 6
3126	E 5	9119	B 5
3128	D 4	9120	E 6
3131	D 8	9121	B 5
3132	B 6	9122	D 5
3134	B 5	9123	D 5
3135	C 8	9124	D 5
3139	B 7	9125	D 4
3141	E 7	9128	E 4
3142	E 7	9129	C 4
3143	D 7	9134	E 8
3145	E 6	WIRE	D 7
3147	B 7		
3148	D 8		
3149	D 8		
3150	D 8		
3151	D 8		
3153	E 8		



3104-217-24451 7 DATE 90-04-13 CAD

+10 = +V = 14.2V

	FM	AM
+7 =	6.2V	7.7V

7103

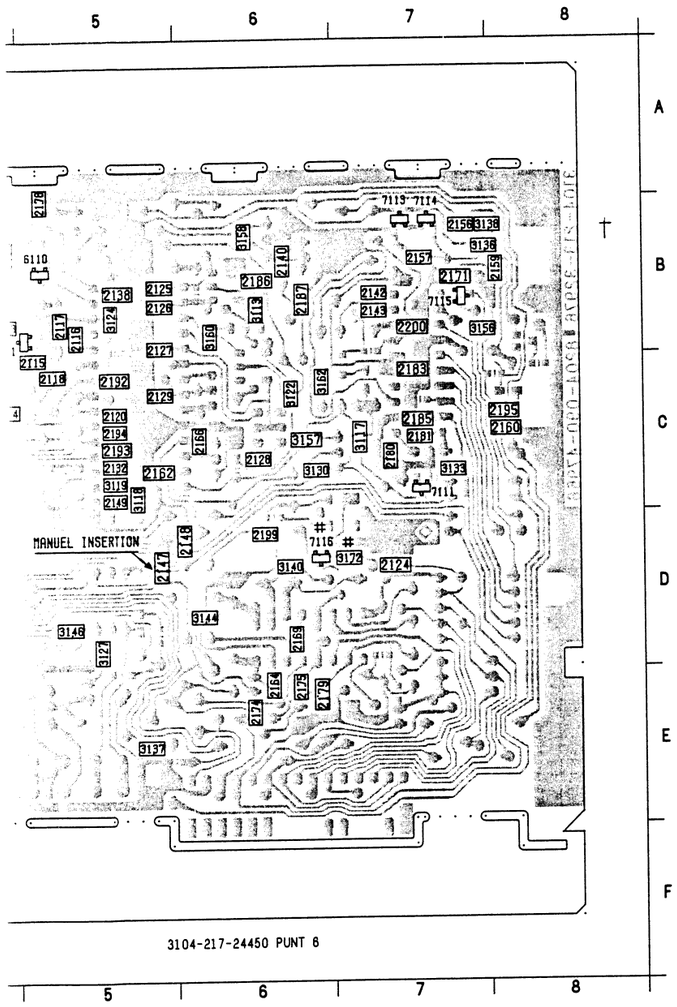
	FM	AM		FM	AM
1	1.0V	0V	15	6.8V	7.2V
2	1.0V	0V	16	1.9V	2.7V
3	0V	0V	17	0.7V	1.3V
4	1.3V	0V	18	0.5V	0.5V
5	2.0V	0V	19	0V	0V
6	3.7V	0V	20	2.3V	0.2V
7	6.2V	7.7V	21	2.3V	0.1V
8	6.2V	7.7V	22	4.5V	7.2V
9	2.3V	2.3V	23	0V	2.2V
10	2.3V	2.3V	24	0V	2.2V
11	5.0V	5.0V	25	2.3V	0.1V
12	0V	1.7V	26	6.2V	7.7V
13	1.9V	0V	27	6.1V	7.7V
14	2.0V	2.6V	28	6.1V	7.7V

7106

	FM	AM		FM	AM
1	10.9V	11.1V	11	1.3V	1.3V
2	1.4V	1.4V	12	–	–
3	1.5V	1.5V	13	1.3V	1.3V
4	2.6V	2.6V	14	1.3V	1.3V
5	2.6V	2.6V	15	1.3V	1.3V
6	5.0V	MONO	16	0.2V	0.4V
	0.7V	STEREO			
	–	5.0V			
7	0V	0V			
8	0.5V	0.5V			
9	0.1V	STEREO			
	2.3V	MONO			
	–	2.3V			
10	1.3V	1.3V			

7110

	FM	AM		
1	1.8V	1.8V	15	:
2	–	–	16	:
3	–	–	17	:
4	–	–	18	:
5	–	–	19	:
6	0.2V	0.2V	20	:
7	0V	0V		
8	0.1V	2.3V		
9	2.3V	0.1V		
10	0.7V	0.7V		
11	0.1V	0.1V		
12	0.1V	0.1V		
13	0.1V	1.9V		
14	3.2V	0.1V		



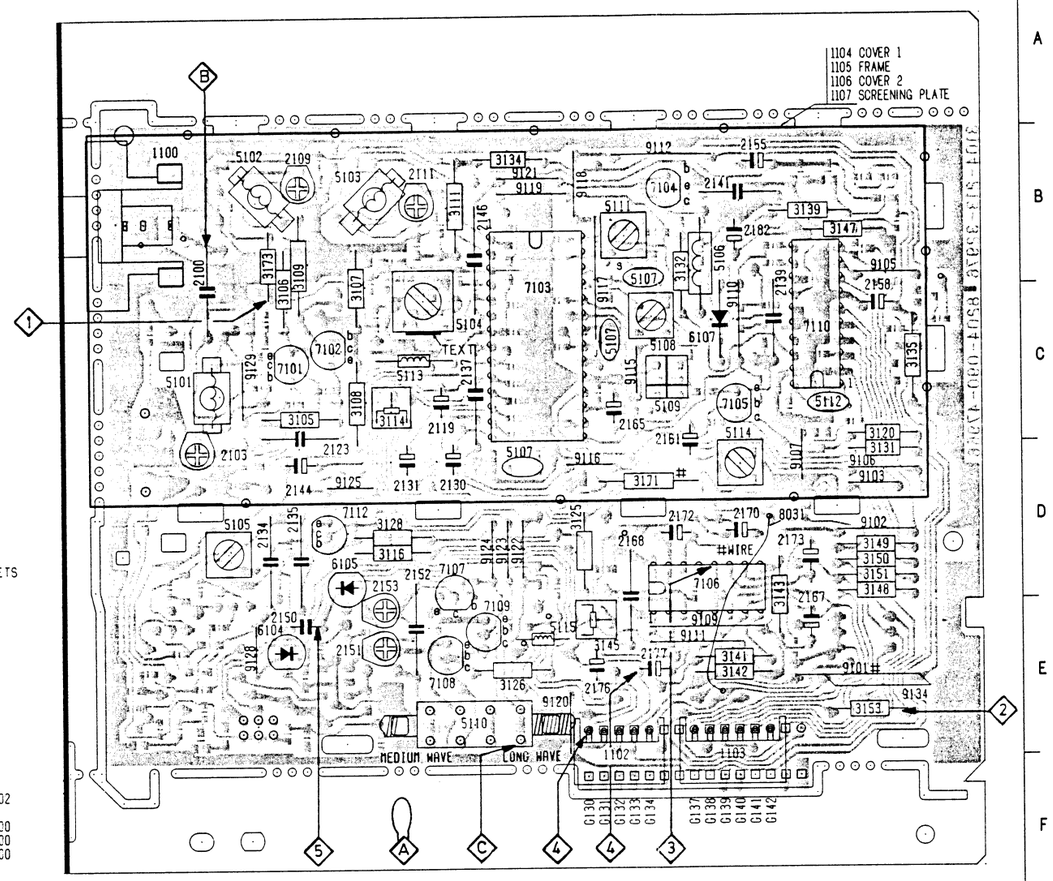
1100	B	3	3171	D	6	3128	D	4	9120	E	6
1102	E	6	3173	B	4	3131	D	8	9121	B	5
1103	E	6	5101	C	3	3132	B	6	9122	D	5
1104	A	7	5102	B	4	3134	B	5	9123	D	5
1105	A	7	5103	B	4	3135	C	8	9124	D	5
1106	A	7	5104	C	5	3139	B	7	9125	D	4
1107	A	7	5105	D	3	3141	E	7	9128	E	4
2100	B	3	5106	B	7	3142	E	7	9129	C	4
2103	D	3	5107	D	5	3143	D	7	9134	E	8
2109	B	4	5107	B	6	3145	E	6	WIRE	D	7
2111	B	5	5107	C	6	3147	B	7			
2119	C	5	5108	C	6	3148	D	8			
2123	D	4	5109	C	6	3149	D	8			
2130	D	5	5110	E	5	3150	D	8			
2131	D	5	5111	B	6	3151	D	8			
2134	D	4	5112	C	7	3153	E	8			
2135	D	4	5113	C	5						
2137	C	5	5114	C	7						
2139	B	7	5115	E	6						
2141	B	7	6104	E	4						
2144	D	4	6105	D	4						
2146	B	5	6107	C	6						
2150	E	4	7101	C	4						
2151	E	4	7102	C	4						
2152	D	5	7103	C	5						
2153	D	4	7104	B	6						
2155	B	7	7105	C	7						
2158	C	8	7106	D	6						
2161	C	6	7107	D	5						
2165	C	6	7108	E	5						
2167	E	7	7109	E	5						
2168	D	6	7110	C	7						
2170	D	7	7112	D	4						
2172	D	6	8031	D	7						
2173	D	7	9101	E	7						
2176	E	6	9102	D	8						
2177	E	6	9103	D	8						
2182	B	7	9105	B	8						
3105	C	4	9106	D	7						
3106	C	4	9107	D	7						
3107	B	4	9109	E	6						
3108	C	4	9110	C	7						
3109	B	4	9111	E	6						
3111	B	5	9112	B	6						
3114	C	4	9115	C	6						
3116	D	4	9116	D	6						
3120	C	8	9117	C	6						
3125	D	6	9118	B	6						
3126	E	5	9119	B	5						

: ONLY AUTOSTORE SETS

FTZ /02

AS 9400
AS 9500
AS 9600

1104 COVER 1
1105 FRAME
1106 COVER 2
1107 SCREENING PLATE



3104-217-24451 7 DATE 90-04-13 CAD

7106

	FM	AM
15	6.8V	7.2V
16	1.9V	2.7V
17	0.7V	1.3V
18	0.5V	0.5V
19	0V	0V
20	2.3V	0.2V
21	2.3V	0.1V
22	4.5V	7.2V
23	0V	2.2V
24	0V	2.2V
25	2.3V	0.1V
26	6.2V	7.7V
27	6.1V	7.7V
28	6.1V	7.7V

	FM	AM		FM	AM
1	10.9V	11.1V	11	1.3V	1.3V
2	1.4V	1.4V	12	–	–
3	1.5V	1.5V	13	1.3V	1.3V
4	2.6V	2.6V	14	1.3V	1.3V
5	2.6V	2.6V	15	1.3V	1.3V
6	5.0V	MONO	16	0.2V	0.4V
	0.7V	STEREO			
	–	5.0V			
7	0V	0V			
8	0.5V	0.5V			
9	0.1V	STEREO			
	2.3V	MONO			
	–	2.3V			
10	1.3V	1.3V			

7110

	FM	AM		FM	AM
1	1.8V	1.8V	15	5.6V	5.7V
2	–	–	16	5.6V	5.7V
3	–	–	17	–	–
4	–	–	18	1.1V	1.1V
5	–	–	19	0V	0V
6	0.2V	0.2V	20	0.9V	0.9V
7	0V	0V			
8	0.1V	2.3V			
9	2.3V	0.1V			
10	0.7V	0.7V			
11	0.1V	0.1V			
12	0.1V	0.1V			
13	0.1V	1.9V			
14	3.2V	0.1V			

7102

e	12.1V
b	11.3V
c	0.5V

7105

e	0V
b	1.6V
c	0.6V

7107

e	0V
b	–
c	0.3V

7108

e	0V
b	0.7V
c	–

7109

e	0V
b	–
c	0.7V

7112

e	0V
b	–
c	6.0V

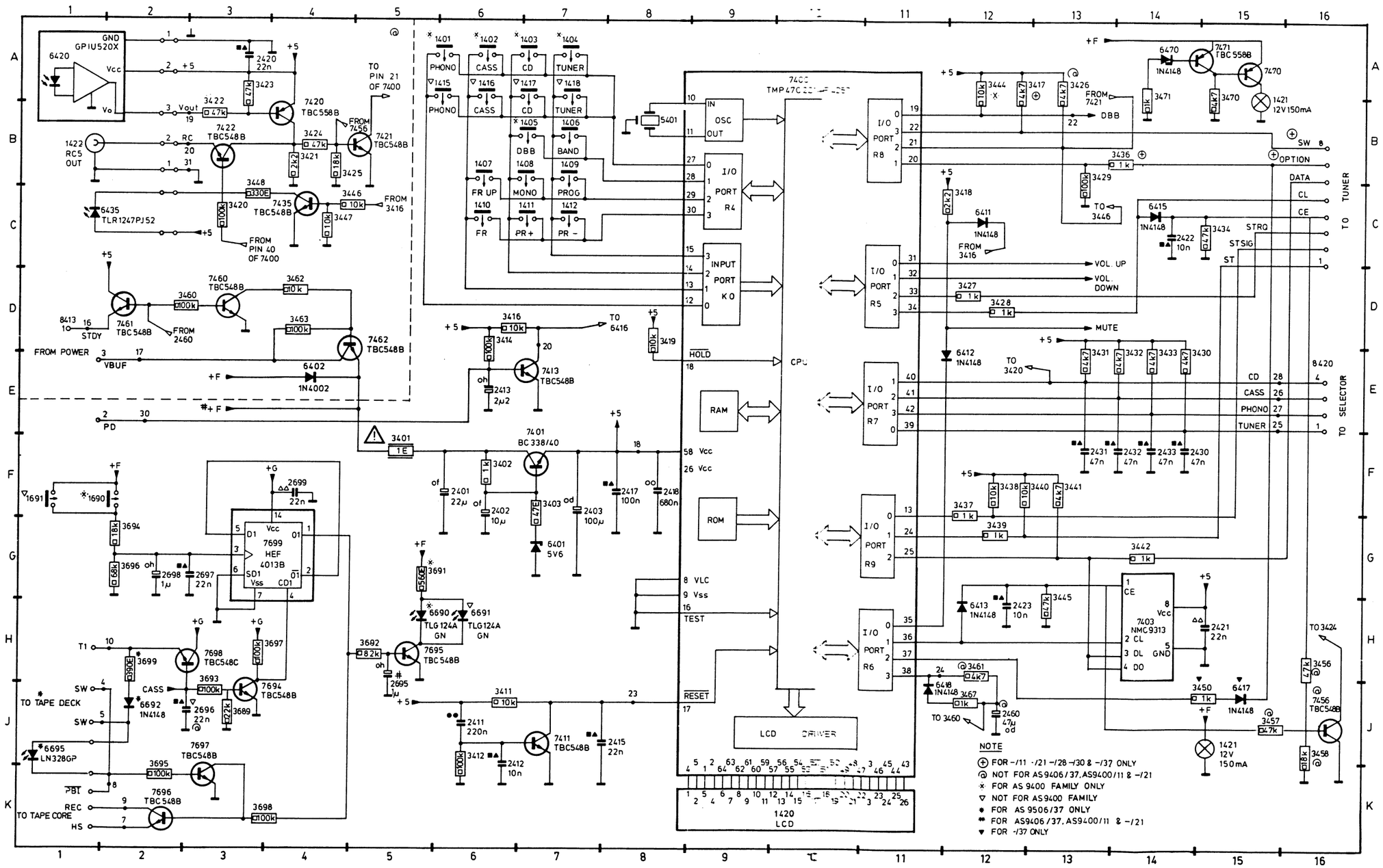
7104

	FM	AM
e	0V	0V
b	0.7V	0.7V
c	3.2V	3.9V

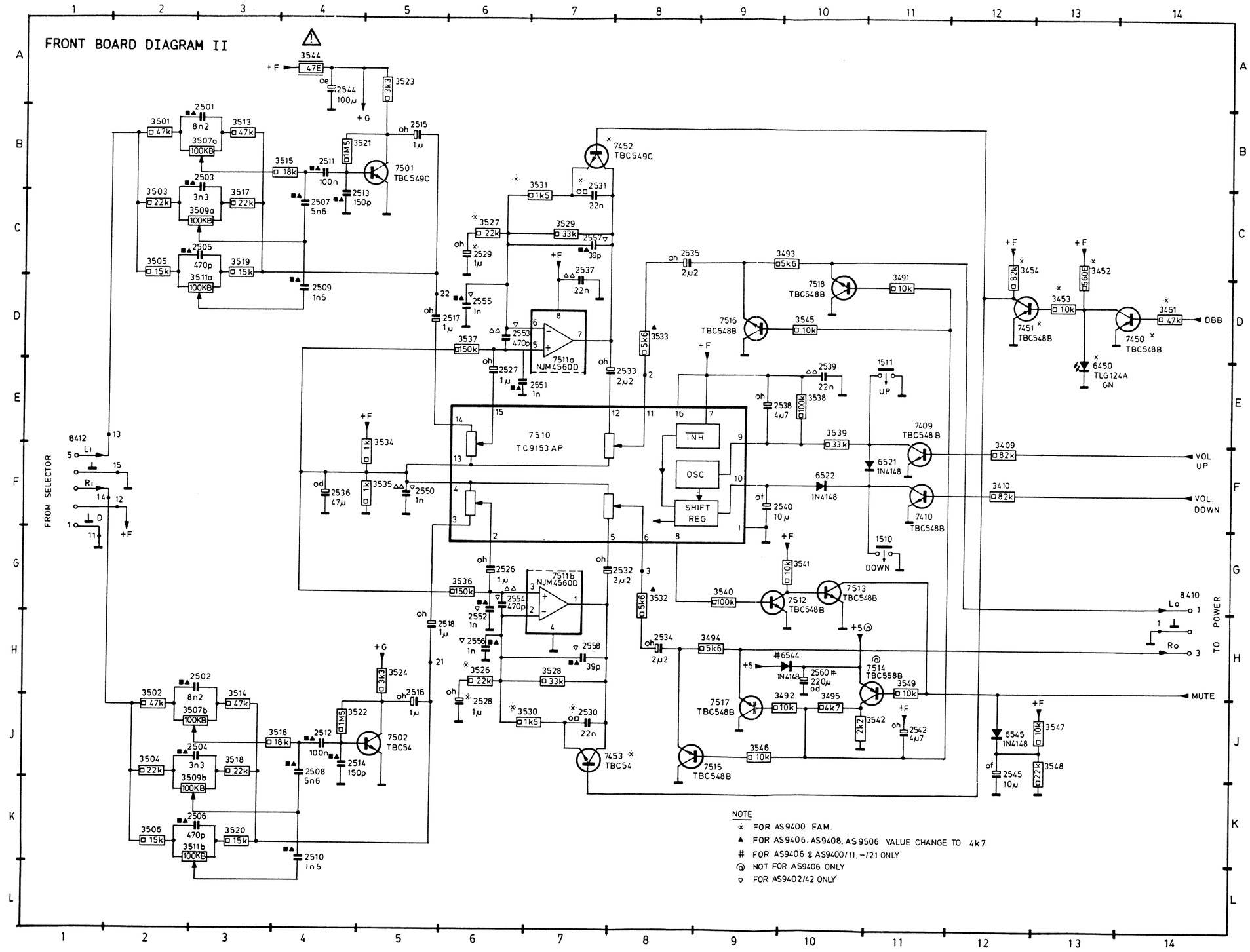
OLD FEATURE BOARD CIRCUIT (MICROPROCESSOR PART)

1401	A6	1415	A6	2412	J6	2460	J12	3417	A13	3430	E14	3444	A12	3463	C4	3697	H4	6417	J15	7413	E7	7696	K2
1402	A6	1416	A6	2413	E6	2695	H5	3418	C12	3431	E13	3445	G13	3465	C2	3698	K3	6418	J11	7420	A4	7697	J3
1403	A7	1417	A7	2415	J8	2697	G3	3419	D8	3432	E14	3446	C4	3467	J12	3699	H2	6435	C2	7421	B5	7698	H3
1404	A7	1418	A7	2418	F8	2698	G2	3421	B4	3433	E14	3447	C4	3470	A15	5401	B8	6470	A14	7435	C3	7699	G4
1405	B7	1421	A16	2419	E7	2699	F4	3422	A3	3434	C15	3448	B3	3471	A14	6401	G7	6690	H6	7456	J16	8413	D1
1406	B7	1422	B1	2420	A3	3401	F5	3423	A3	3436	B14	3450	J15	3689	J3	6402	E4	6691	H6	7460	D3		
1407	B6	1690	F1	2421	H15	3402	F6	3424	B4	3437	F12	3456	H16	3691	G6	6411	C12	6692	J2	7461	D2		
1408	B7	1691	F1	2422	C14	3403	F7	3425	B4	3438	F12	3457	J16	3693	H5	6412	E12	6695	J1	7462	D5		
1409	B7	2401	F6	2423	H12	3411	J6	3426	A13	3439	F12	3458	J16	3694	H3	6413	H12	7400	A10	7470	A15		
1410	C6	2402	F6	2431	F13	3412	J6	3427	D12	3440	F13	3460	D3	3694	G2	6414	K10	7401	E7	7471	A15		
1411	B7	2403	F7	2432	F14	3414	D6	3429	B13	3441	F13	3461	H12	3695	J2	6415	C14	7403	H14	7694	J4		
1412	B7	2411	J6	2433	F14	3416	D6	3430	F14	3442	G14	3462	D4	3696	G2	6416	C13	7411	J7	7695	H6		

FRONT BOARD DIAGRAM I



OLD FEATURE BOARD CIRCUIT (GE/VOLUME PART)



1510	G11	3509a	C3	3549	H11
1511	E11	3509b	K3	3554	A4
2501	B3	3511a	D3	6450	E13
2502	H3	3511b	K3	6521	F11
2503	B3	3513	B3	6522	F10
2504	J3	3514	H3	6544	H9
2505	C3	3515	B4	6545	J12
2506	K3	3516	J4	7409	E11
2507	J3	3517	C3	7410	F11
2507	C4	3518	J3	7450	D14
2508	J4	3519	C3	7451	G10
2509	D4	3520	K3	7451	D12
2510	K4	3521	B4	7452	B8
2511	B4	3522	J4	7453	J8
2512	J4	3523	A5	7501	B5
2513	C4	3524	H5	7502	J5
2514	J4	3526	H6	7510	E7
2515	B5	3527	C6	7511a	E7
2516	H5	3528	H7	7513	G10
2517	D6	3529	C7	7514	H10
2518	H6	3530	J6	7515	J10
2526	G6	3531	B7	7516	D9
2527	E6	3532	G8	7517	J9
2528	J6	3533	D8	7518	D10
2529	C6	3534	E5	8410	G14
2530	J7	3535	F5	8412	E1
2531	B7	3536	G6		
2532	G8	3537	D6		
2533	E8	3538	E10		
2534	H8	3539	E10		
2535	D8	3540	G9		
2536	F4	3541	G10		
2537	C7	3542	J11		
2538	E9	3542	C13		
2539	E10	3542	J10		
2540	F9	3543	D13		
2542	J11	3543	J13		
2545	J12	3545	D10		
2550	F5	3546	J10		
2551	E7	3547	J13		
2552	H6	3549	H11		

GB **WARNING**

All ICs and many other semi-conductors are susceptible to electrostatic discharges (ESD).
Careless handling during repair can reduce life drastically.
When repairing, make sure that you are connected with the same potential as the mass of the set via a wrist wrap with resistance.
Keep components and tools also at this potential.

ESD

F **ATTENTION**

Tous les IC et beaucoup d autres semi-conducteurs sont sensibles aux decharges statiques (ESD).
Leur longevite pourrait être considerablement ecourtee par le fait qu aucune precaution n est prise a leur manipulation.
Lors de reparations, s assurer de bien être relie au même potentiel que la masse de l appareil et enfiler le bracelet serti d une resistance de securite.
Veiller a ce que les composants ainsi que les outils que l on utilise soient egalement a ce potentiel.

D **WARNUNG**

Alle ICs und viele andere Halbleiter sind empfindlich gegenuber elektrostatischen Entladungen (ESD).
Unsorgfältige Behandlung im Reparaturfall kan die Lebensdauer drastisch reduzieren.
Veranlassen Sie, dass Sie im Reparaturfall uber ein Pulsarmband mit Widerstand verbunden sind mit dem gleichen Potential wie die Masse des Gerates.
Bauteile und Hilfsmittel auch auf dieses gleiche Potential halten.

NL **WAARSCHUWING**

Alle IC's en vele andere halfgeleiders zijn gevoelig voor electrostatische ontladingen (ESD).
Onzorgvuldig behandelen tijdens reparatie kan de levensduur drastisch doen verminderen.
Zorg ervoor dat u tijdens reparatie via een polsband met weerstand verbonden bent met hetzelfde potentiaal als de massa van het apparaat.
Houd componenten en hulpmiddelen ook op ditzelfde potentiaal.

I **AVVERTIMENTO**

Tutti IC e parecchi semi-conduttori sono sensibili alle scariche statiche (ESD).
La loro longevita potrebbe essere fortemente ridatta in caso di non osservazione della piu grande cauzione alla loro manipolazione.
Durante le riparazioni occorre quindi essere collegato allo stesso potenziale che quello della massa dell apparecchio tramite un braccialetto a resistenza.
Assicurarsi che i componenti e anche gli utensili con quali si lavora siano anche a questo potenziale.

	Carbon film 0.2 W CR16	70°C	5%
	Carbon film 0.33 W CR25	70°C	5%
	Carbon film 0.5 W CR37	70°C	5%
	Standard film 0.5 W SFR16T	70°C	5%
	Standard film 0.4 W SFR25	70°C	5%
	Metal film 0.6 W MRS25	70°C	5%
	Safety resistor		
C	Chip component		

	Plate ceramic Tuning < 120 pF	2%
	Others	—20/+80%
	Tubular ceramic	
	Polystyrene film / foil	1%
	Polyestor Film / foil	10%
	Mylar	10%
	Electrolytic	

a	2.5 V
b	4 V
c	6.3 V
d	10 V
e	16 V
f	25 V
g	40 V
h	63 V
i	100 V
l	125 V
m	150 V
n	160 V
q	200 V
r	250 V
s	300 V
t	350 V
u	400 V
v	500 V
w	630 V
x	1000 V
A	1.6 V
B	6 V
C	12 V
D	15 V
E	20 V
F	35 V
G	50 V
H	75 V
I	80 V

26338

GB Because, generally speaking, MOS IC's are very sensitive to overload and too high voltages, measurements should be carried out with greatest possible care.
For further instructions, see the directions enclosed in the separate IC-packages.

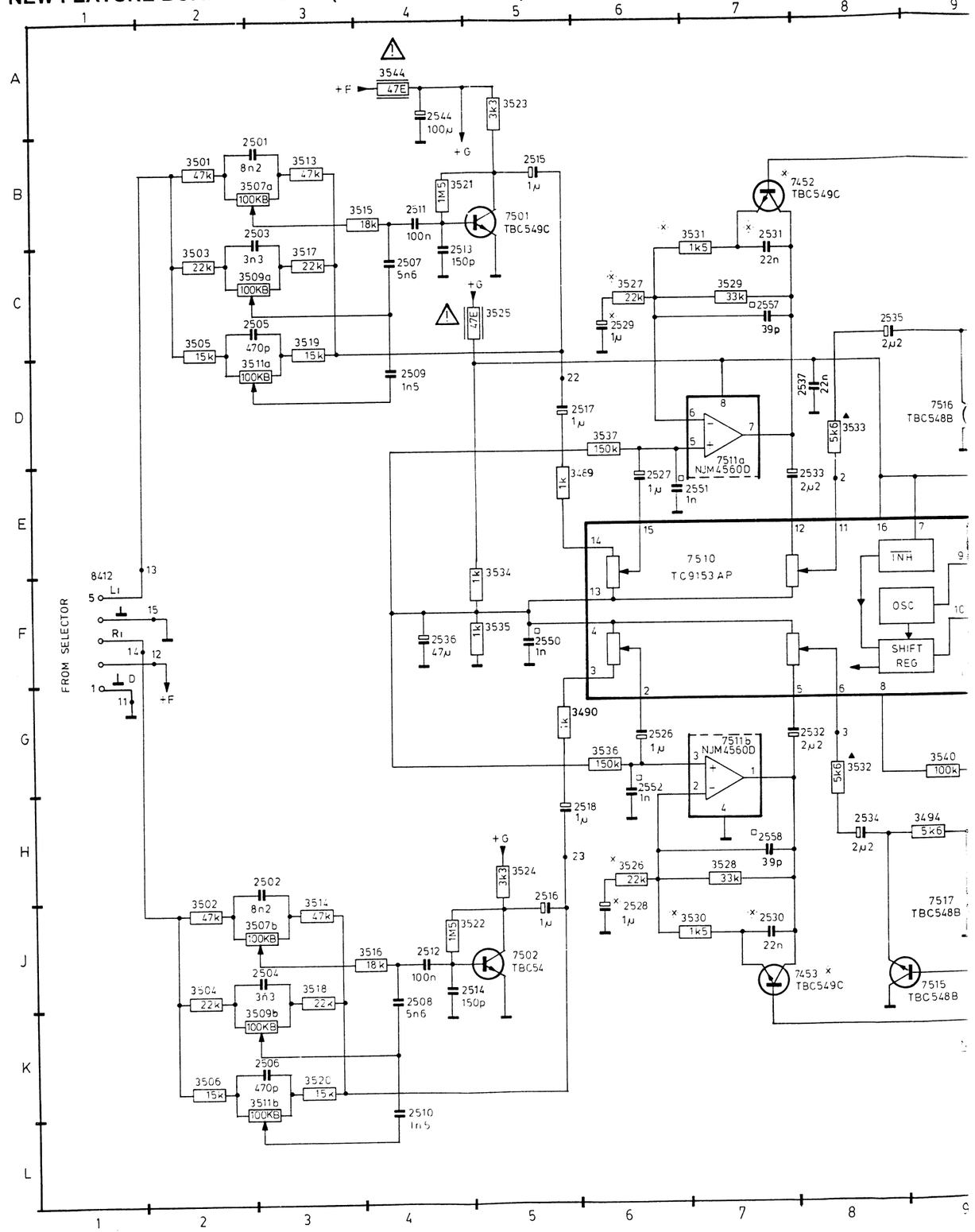
F Parce qu'en général, les IC MOS sont très sensibles à la surcharge et à des tensions trop élevées, il faudra procéder aux mesures avec le plus grand soin.
Pour plus de détails, voir les instructions accompagnant l'emballage des IC.

NL Omdat MOS IC's in het algemeen zeer gevoelig zijn voor overbelasting en te hoge spanning dient bij het meten de grootst mogelijke zorgvuldigheid in acht genomen te worden. Zie voor verdere instructies de bijsluiter in de verpakking van de IC's.

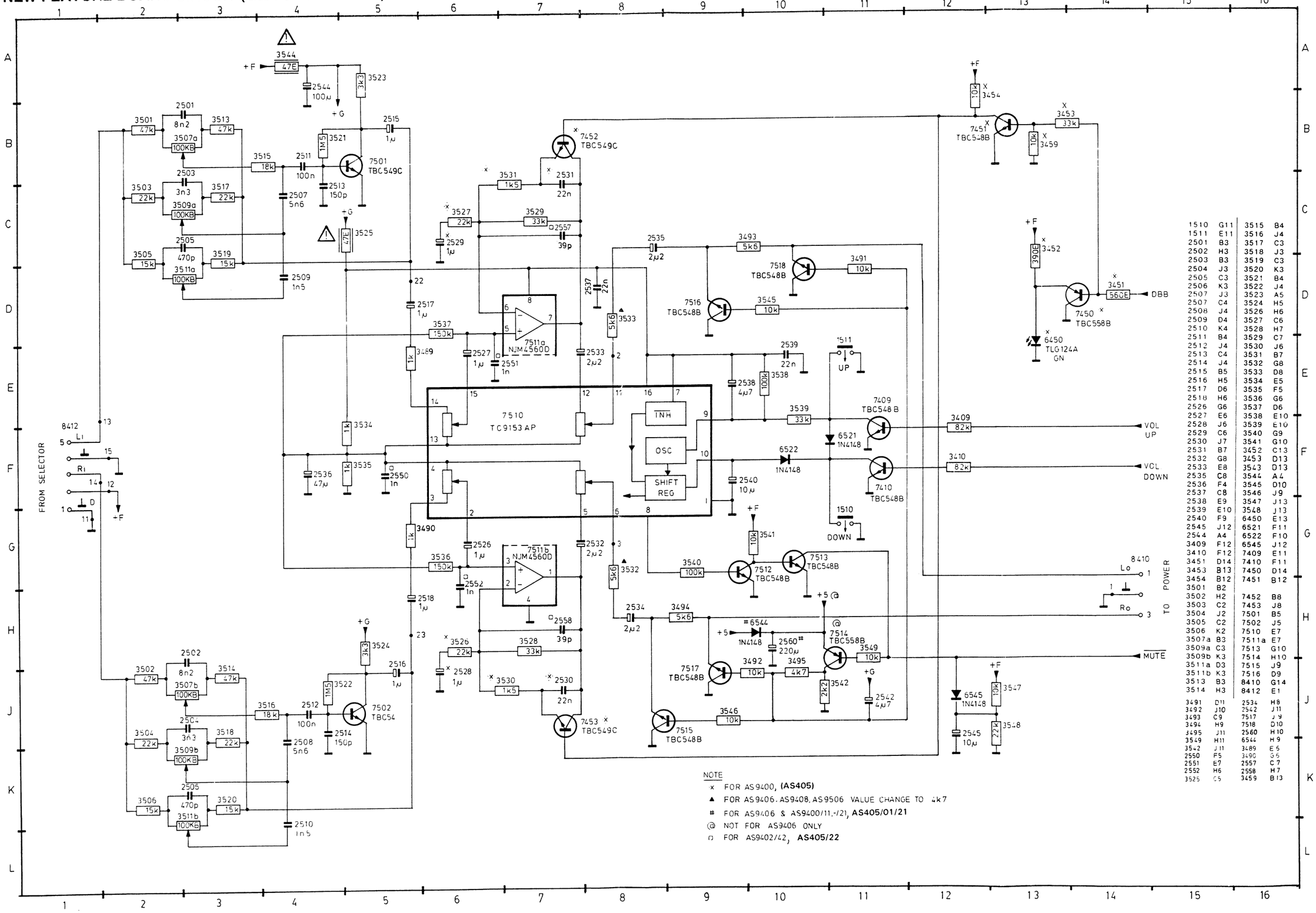
D Da MOS IC's im allgemeinen sehr empfindlich gegen Überbelastung und zu hohe Spannung sind, muss man beim Messen äusserst vorsichtig vorgehen.
Für weitere Weisungen siehe den beigefugten Zettel in der Verpackung der IC's.

I Dato che gli IC MOS sono molto sensibili alla sovracarica e alle tensioni troppo alte, occorrerà procedere alle misure con particolare cautela.
Per altu particolari riferirsi alla istruzioni comprese nell' imballagio di ogni IC.

NEW FEATURE BOARD CIRCUIT (GE/VOLUME PART)



NEW FEATURE BOARD CIRCUIT (GE/VOLUME PART)

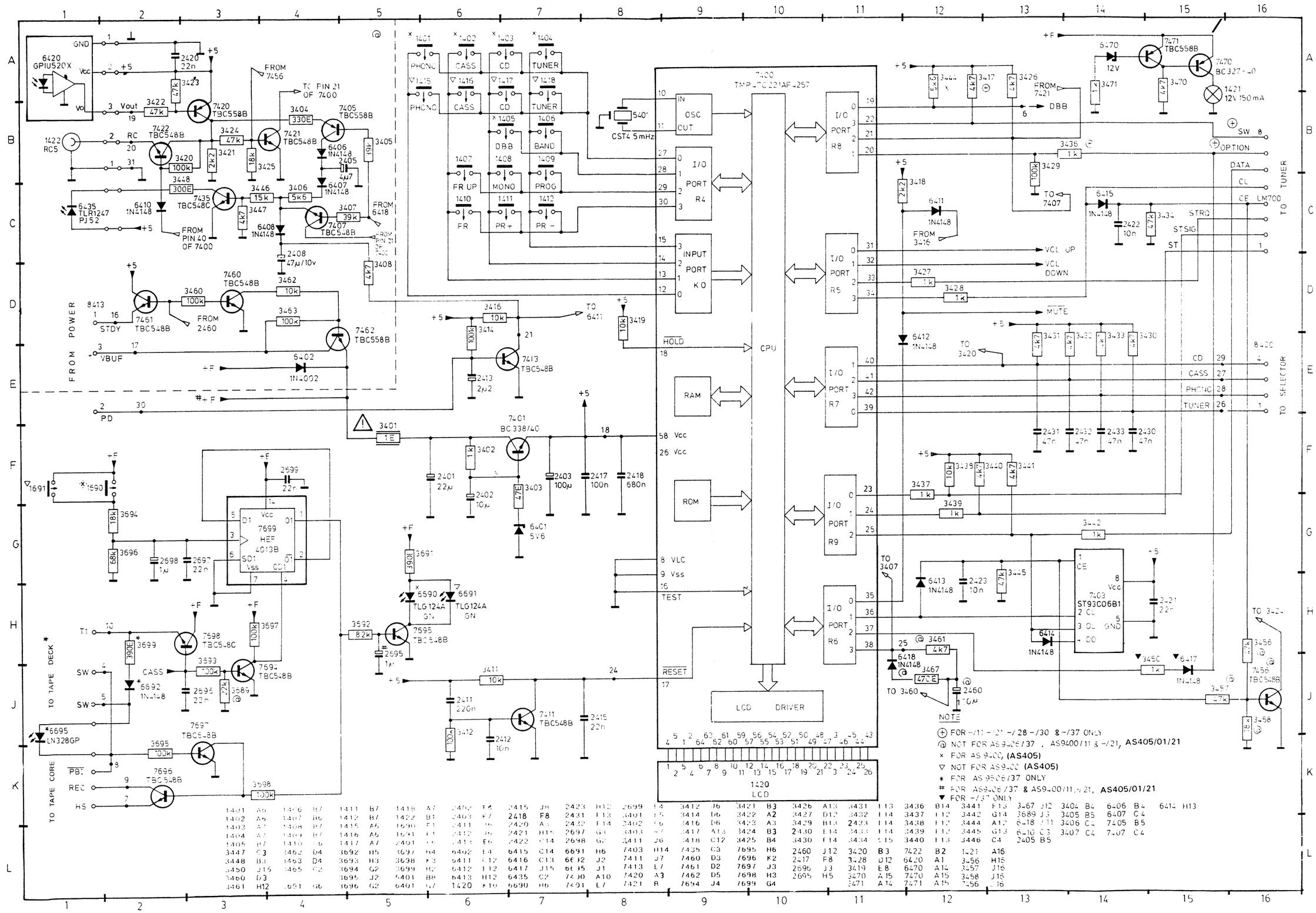


1510	G11	3515	B4
1511	E11	3516	J4
2501	B3	3517	C3
2502	H3	3518	J3
2503	B3	3519	C3
2504	J3	3520	K3
2505	C3	3521	B4
2506	K3	3522	J4
2507	J3	3523	A5
2507	C4	3524	H5
2508	J4	3526	H6
2509	D4	3527	C6
2510	K4	3528	H7
2511	B4	3529	C7
2512	J4	3530	J6
2513	C4	3531	B7
2514	J4	3532	G8
2515	B5	3533	D8
2516	H5	3534	E5
2517	D6	3535	F5
2518	H6	3536	G6
2526	G6	3537	D6
2527	E6	3538	E10
2528	J6	3539	E10
2529	C6	3540	G9
2530	J7	3541	G10
2531	B7	3452	C13
2532	G8	3453	D13
2533	E8	3543	D13
2535	C8	3544	A4
2536	F4	3545	D10
2537	C8	3546	J9
2538	E9	3547	J13
2539	E10	3548	J13
2540	F9	6450	E13
2545	J12	6521	F11
2544	A4	6522	F10
3409	F12	6545	J12
3410	F12	7409	E11
3451	D14	7410	F11
3453	B13	7450	D14
3454	B12	7451	B12
3501	B2		
3502	H2	7452	B8
3503	C2	7453	J8
3504	J2	7501	B5
3505	C2	7502	J5
3506	K2	7510	E7
3507a	B3	7511a	E7
3509a	C3	7513	G10
3509b	K3	7514	H10
3511a	D3	7515	J9
3511b	K3	7516	D9
3513	B3	8410	G14
3514	H3	8412	E1
3491	D11	2534	H8
3492	J10	2542	J11
3493	C9	7517	J9
3494	H9	7518	D10
3495	J11	2560	H10
3549	H11	6544	H9
3542	J11	3489	E5
2550	F5	3490	G5
2551	E7	2557	C7
2552	H6	2558	H7
3525	G5	3459	B13

a = 2.5 V
b = 4 V
c = 6.3 V
d = 10 V
e = 16 V
f = 25 V
g = 40 V
h = 63 V
i = 100 V
k = 125 V
m = 150 V
n = 160 V
p = 200 V
r = 250 V
s = 300 V
t = 350 V
u = 400 V
v = 500 V
w = 630 V
x = 1000 V
A = 1.6 V
B = 6 V
C = 12 V
D = 15 V
E = 20 V
F = 35 V
G = 50 V
H = 75 V
I = 80 V

26338

NEW FEATURE BOARD CIRCUIT (MICROPROCESSOR PART)



PCS 63 276A

SELF-TEST PROC

When holding the
down during power
after which the dis
both keys are relea

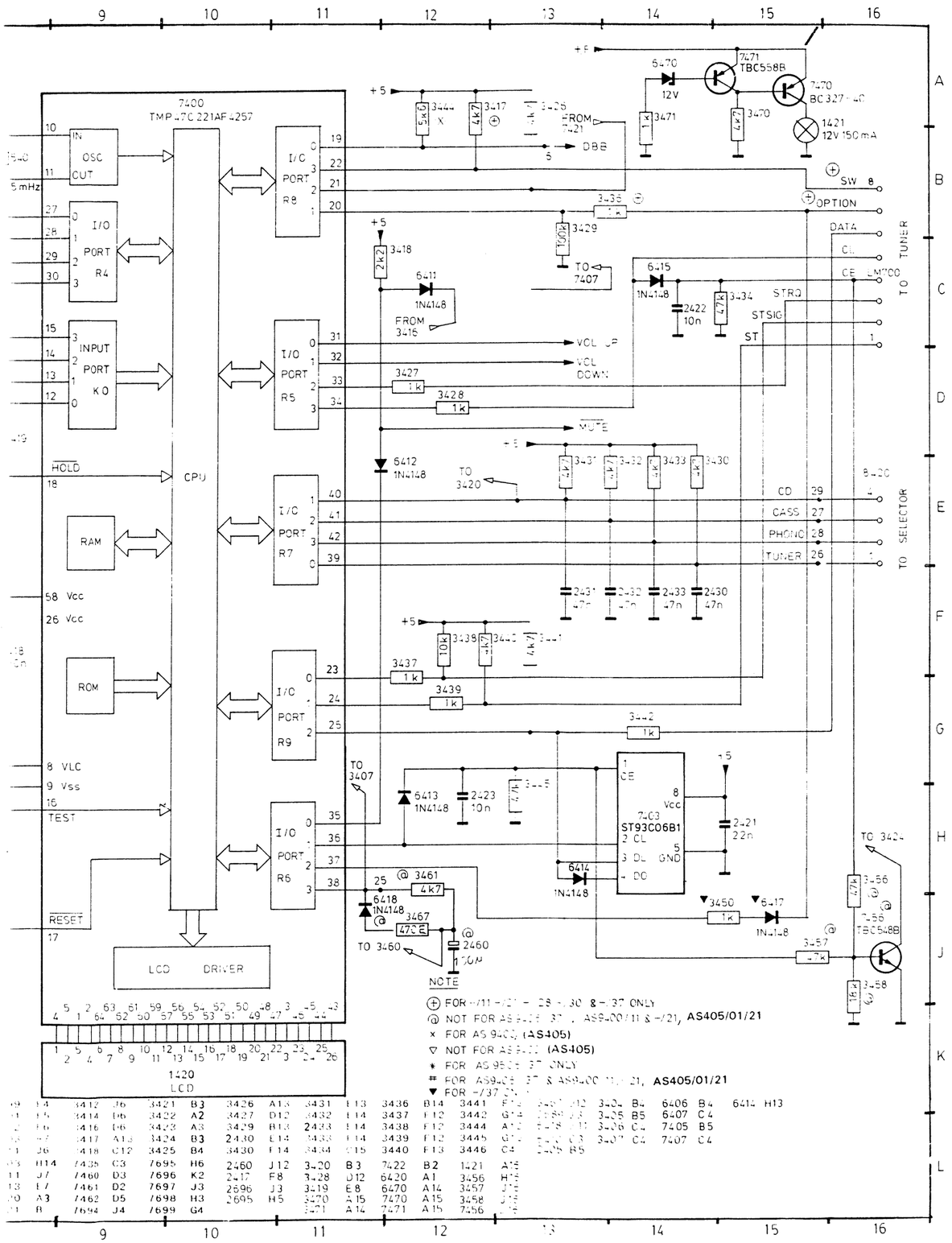
The loaded informa

Preset	
0	87.50
1	97.00
2	98.00
3	99.00
4	108.00
5	522
6	567
7	603
8	1278
9	1494
10	1611
11	148
12	155
13	200
14	275
15	284
16	3820
17	3900
18	11900
19	12100

LCD Display

SWLW
MW
AM
FM

digit 1



SELF-TEST PROCEDURE

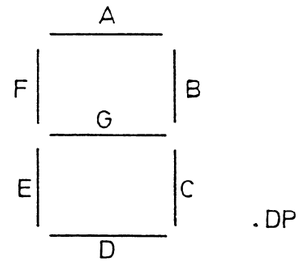
When holding the program-key and preset-up key down during power up the EEROM is loaded after which the display lights completey until both keys are released.

The loaded information are as follows:

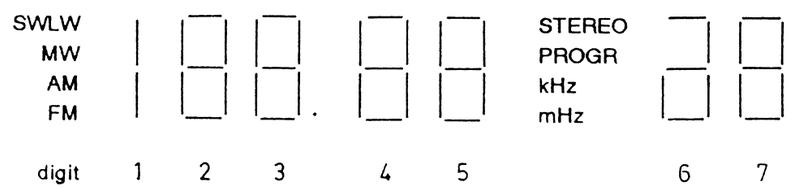
Preset	Frequency			Band
		POL	USA	
0	87.50	65.00	87.5	
1	97.00	65.00	106.5	
2	98.00	65.00	87.5	FM
3	99.00	65.00	87.5	
4	108.00	65.00	87.5	
			USA	
5	522		530	
6	567		580	
7	603		620	MW
8	1278		1370	
9	1494		1610	
10	1611			
11	148			
12	155			
13	200			LW
14	275			
15	284			
		EUR		
16	3820	5820		
17	3900	5900		SW
18	11900	13900		
19	12100	14100		

LCD Display / uProcessor interconnection

COM2	COM1	LCD Pin	uProc Pin
7C	7D	26	43
7G	7E	25	44
7B	7F	24	45
6B	7A	23	46
5C	5D	22	47
5G	5E	21	48
5B	5F	20	49
KHZ	5A	19	50
4C	4D	18	51
4G	4E	17	52
4B	4F	16	53
LW	4A	15	54
3C	3D	14	55
3G	3E	13	56
3B	3F	12	57
SW	3A	11	59
2C	2D	10	60
2G	2E	9	61
2B	2F	8	62
1BC	2A	7	63
MW	MHZ,FM,DP	6	64
PROGR	AM	5	1
STEREO	6ADG	4	2
6E	6C	3	3
COM2	-	2	5
-	COM1	1	4



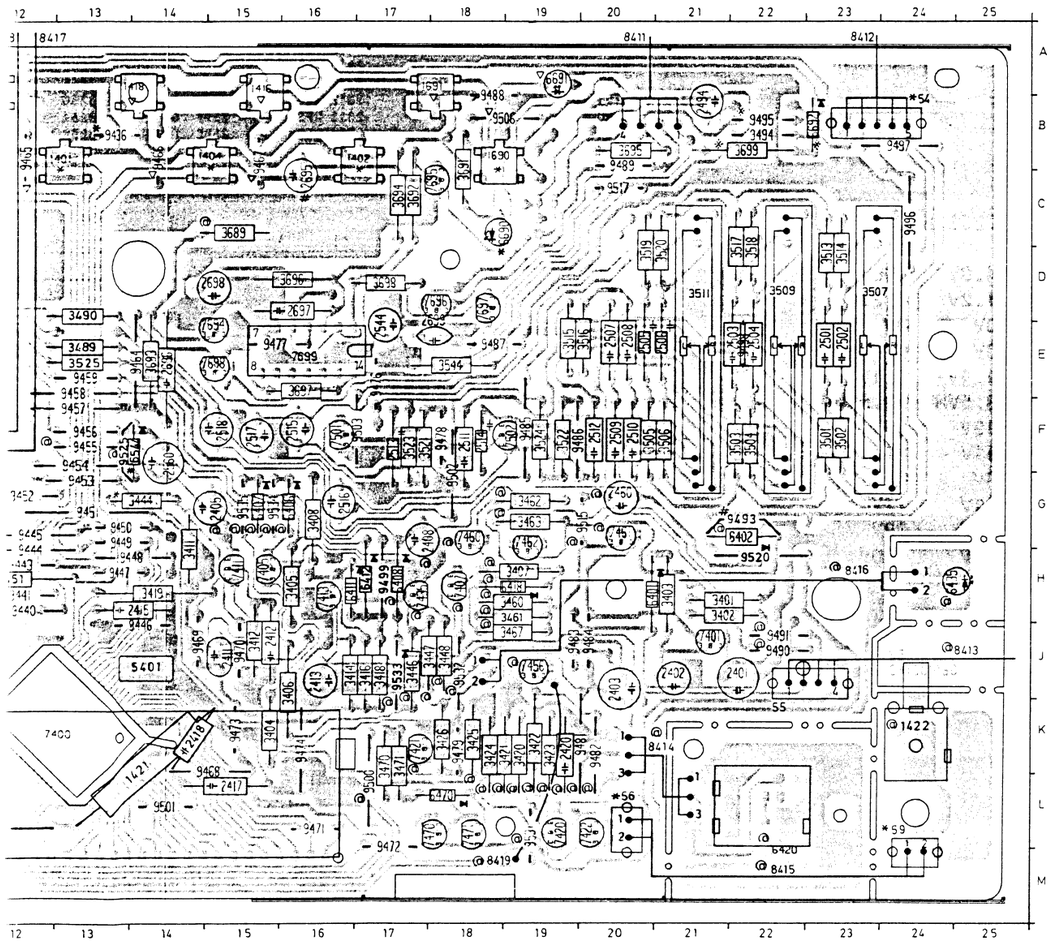
LCD Display



NEW FEATURE BOARD LAYOUT

| | | |

3689	C15	6411	H16	6692	B23	7452	F8	7517	C7	8419	M18	9416	E7	9435	B11	9453	G13	9474	K16	9495	B22	9519	L9
3691	B18	6412	H17	6695	A8	7453	D7	7518	B7	8420	H1	9417	E7	9436	B13	9454	F13	9476	E17	9496	C24	9520	H22
3692	C17	6413	L9	7400	L13	7456	J19	7694	E15	8421	B8	9418	D7	9437	L11	9455	F13	9477	E15	9498	E22	9522	J10
3693	E14	6414	L7	7401	J21	7460	G18	7695	C17	9401	G2	9419	D8	9438	L12	9456	F13	9478	F18	9499	H17	9525	F13
3694	C17	6415	F10	7403	L10	7461	G20	7696	D18	9402	F2	9421	J8	9439	J11	9457	F13	9479	K18	9500	L17	9530	E9
3695	B20	6417	G11	7405	H15	7462	G19	7697	D18	9403	D2	9422	H9	9440	H12	9458	E13	9481	K19	9501	L14	9531	L19
3696	D15	6418	H19	7407	H18	7470	L18	7698	E15	9404	D1	9423	H9	9441	H12	9459	E13	9482	K20	9502	F18	9532	J18
3697	E16	6420	M22	7409	G3	7471	L18	7699	E16	9405	F3	9424	H9	9443	H12	9464	E14	9483	J19	9503	F16	9533	J17
3698	D17	6435	H24	7410	G2	7501	F16	8410	A6	9406	E3	9425	H9	9444	G12	9465	B12	9485	F19	9505	B7	9534	G15
3699	B22	6450	C9	7411	H15	7502	F19	8411	A20	9407	D3	9426	G9	9445	G12	9466	B14	9486	F19	9506	B18	9535	G15
5401	J14	6470	L18	7413	H16	7510	E2	8412	A23	9408	D3	9428	J10	9446	H14	9467	B15	9487	E18	9510	J7		
6401	H20	6521	F2	7420	L19	7511	F5	8413	J25	9409	E4	9429	J11	9447	H13	9468	K15	9488	A18	9511	J8		
6402	G22	6522	F2	7421	K17	7512	C2	8414	K21	9410	E4	9430	H10	9448	H13	9469	J14	9489	B20	9512	J8		
6406	F16	6544	F14	7422	L20	7513	B3	8415	M22	9411	D4	9431	G10	9449	G13	9470	J15	9490	J22	9513	E9		
6407	G15	6645	F7	7435	H17	7514	D8	8416	H23	9412	C4	9432	G10	9450	G13	9471	L16	9491	J22	9515	G20		
6408	H17	6690	C18	7450	C10	7515	B8	8417	A12	9413	C5	9433	F11	9451	G13	9472	L17	9493	G22	9517	C20		
6410	L10	6691	A19	7451	E8	7516	A4	8418	A12	9415	C5	9434	B9	9452	G12	9473	K15	9494	B22	9518	L8		



NOTE

- @ NOT FOR AS9400/11,-/21 & 9406/37, **AS405/01/21**
- ▼ FOR -/37 ONLY
- ⊖ FOR -/11,-/21,-/28,-/30,-/37 ONLY
- ✕ FOR AS9506/37 ONLY
- ✱ FOR AS9400, **(AS405)**
- ▽ NOT FOR AS9400, **(AS405)**
- # FOR AS9406/37 & AS9400/11,-/21, **AS405/01/21**
- Ω FOR AS9402/42, **AS405/22**

+5 - 5V
+F - 8V
+G - 10.4V

7510

1 - 0V
2 - 4.0V
3 - 4.0V
4 - 4.0V
5 - 4.0V
6 - 4.0V
7 - 8.0V
8 - 6.9V
9 - 8.0V
10 - 8.0V
11 - 4.0V
12 - 4.0V
13 - 4.0V
14 - 4.0V
15 - 4.0V
16 - 8.0V

7511

1 - 4.0V
2 - 4.0V
3 - 4.0V
4 - 0V
5 - 4.0V
6 - 4.0V
7 - 4.0V
8 - 8.0V

7401	7695
e - 5.2V	e - 0V
b - 5.8V	b - -
c - 9.7V	c - 8.9V

7501	7502
e - 0V	e - 0V
b - 0.6V	b - 0.6V
c - 4.0V	c - 4.0V

V+ - 10.5V

Vc - 20V

7301	7303
1 - 8.75V	1 - 9.25V
2 - 20.0V	2 - 20.0V
3 - 10.0V	3 - 10.5V

7550	7253/54		
1 - 3.5V	1	- 4.0V	4.0V
2 - 3.5V	2	- 1.2V	1.2V
3 - 3.5V	3	- 0V	0V
4 - 0V	4	- 0V	0V
5 - 3.5V	5	- 1.1V	1.1V
6 - 3.5V	6	- 3.5VHP	18.5VWHP
7 - 3.5V	7	- 19V	19V
8 - 9.8V	8	- 11V	11V
	9	- 0V	0V
	10	- 11V	11V
7602	11	- 19V	19V
	12	- 20V	20V
1 - 5.0V			
2 - 5.0V			
3 - 4.7V			
4 - 0V			
5 - 4.7V			
6 - 5.0V			
7 - 5.0V			
8 - 10V			

NOTE:

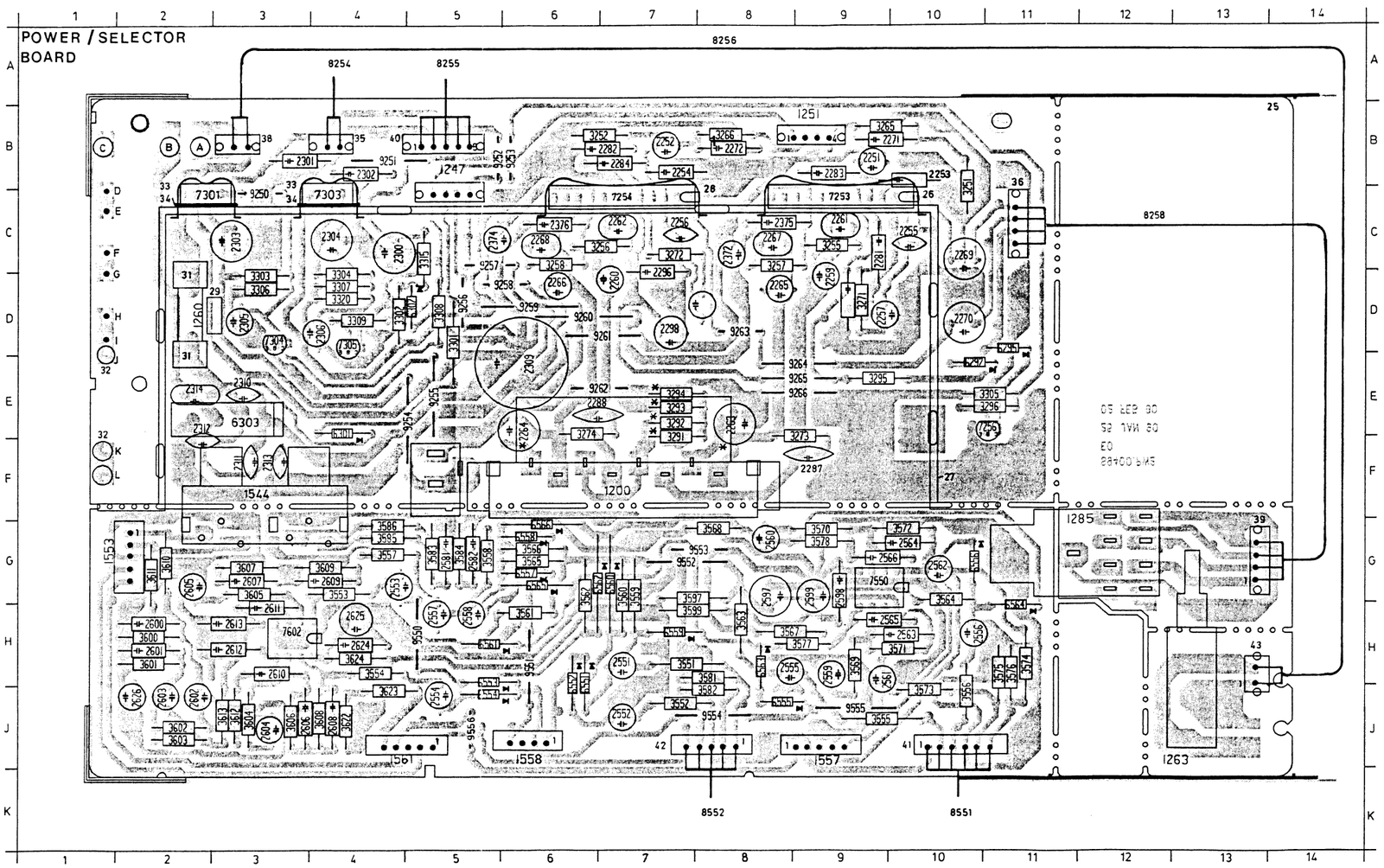
....V measured in tape position

....VHP measured in tape position with headphone

....VWHP measured in tape position without headphone

OLD POWER/SELECTOR BOARD LAYOUT

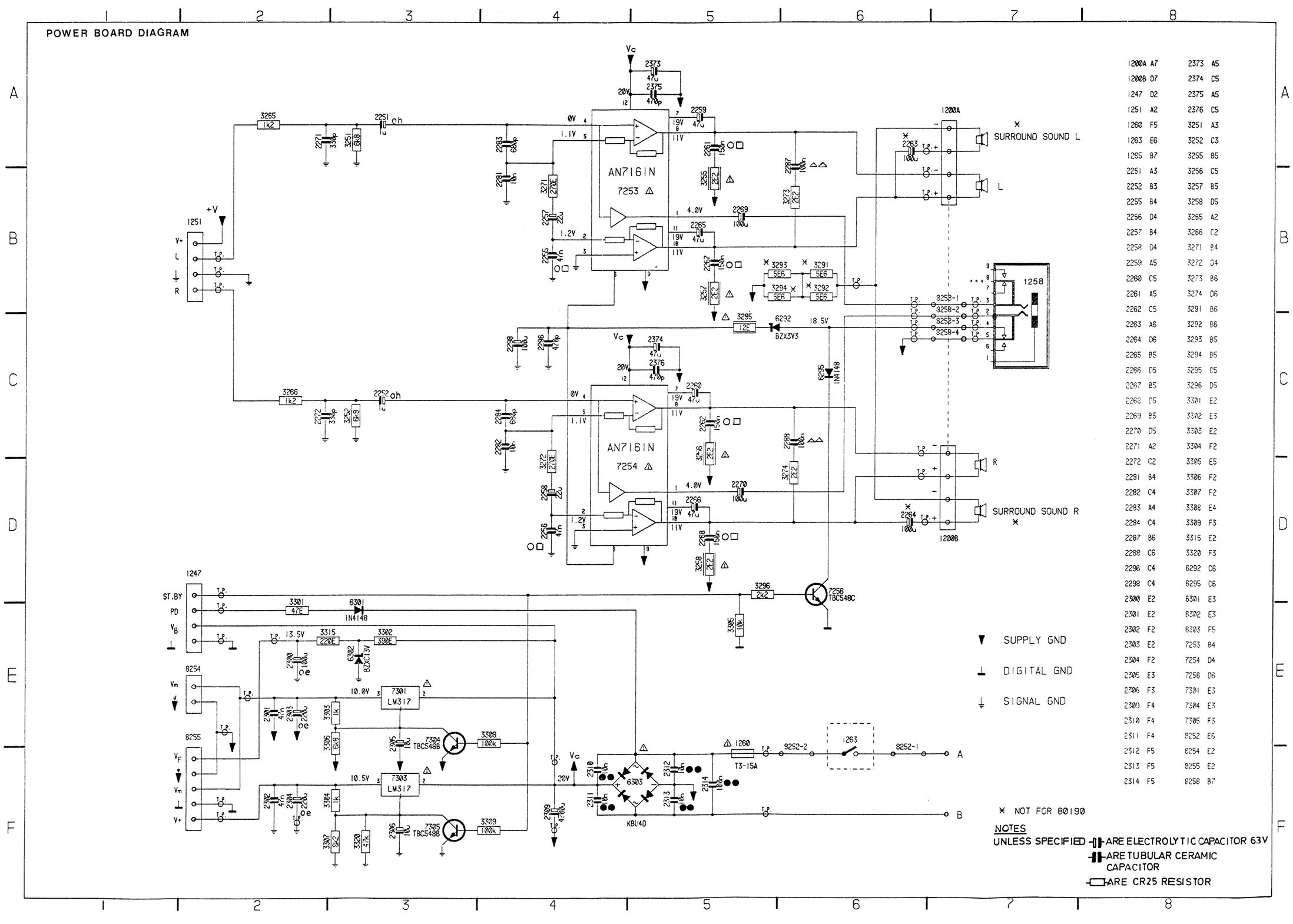
25	B14	1285	G12	2270	D10	2372	C8	2599	G9	3265	B9	3552	J7	3576	H11	3613	J3	6566	G6	9258	D5
26	C10	1533	G1	2271	B9	2374	C5	2600	H2	3266	B8	3553	G4	3577	H9	3622	J4	7253	C9	9259	D6
27	F10	1544	F3	2272	B8	2375	C8	2601	H2	3271	D9	3554	H4	3578	G9	3623	J4	7254	C7	9260	D6
28	C8	1557	J9	2281	C9	2376	C6	2602	J2	3272	C7	3555	J9	3581	H8	3624	H4	7256	E11	9261	D6
29	D2	1558	J6	2282	B7	2551	H7	2603	J2	3273	E9	3556	J10	3582	J8	6292	E10	7301	C2	9262	E6
31	D2	1561	J4	2283	B9	2552	J7	2604	J3	3274	E6	3557	G4	3583	G5	6295	D11	7303	C4	9263	D8
32	E1	2251	B9	2284	B7	2553	G4	2605	G2	3291	F7	3558	G5	3584	G5	6301	D4	7304	D3	9264	E9
33	B2	2252	B7	2287	F9	2554	J5	2606	J3	3292	E7	3559	G7	3585	G4	6302	D5	7305	D4	9265	E9
33	B3	2253	B10	2288	E6	2555	H8	2607	G3	3293	E7	3560	G7	3586	G4	6303	D3	7550	G9	9266	E9
34	C3	2254	B7	2296	D7	2556	H10	2608	J4	3294	E7	3561	H6	3597	G7	6551	H6	7602	H3	9550	H5
34	C2	2255	C10	2298	D7	2557	H5	2609	G4	3295	E9	3562	G6	3599	H7	6552	H6	8254	A4	9551	H6
35	B4	2256	C7	2300	C4	2558	H5	2610	H3	3296	E11	3563	H8	3600	H2	6553	H5	8255	A5	9552	G7
36	B11	2257	D9	2301	B3	2559	H9	2611	H3	3301	D5	3564	G10	3601	H2	6554	J5	8256	A8	9553	G7
38	B3	2259	D9	2302	B4	2560	G8	2612	H3	3302	D4	3565	G6	3602	J2	6555	J8	8258	C12	9554	J8
39	G13	2260	D7	2303	C3	2561	H9	2613	H3	3303	D3	3566	G6	3603	J2	6556	G10	8551	K10	9555	J9
40	B4	2261	C9	2304	C4	2562	G10	2624	H4	3304	D4	3567	H8	3604	J3	6557	G6	8552	K8	9556	J5
41	J10	2262	C7	2305	D3	2563	H10	2625	H4	3305	E11	3568	G8	3605	G3	6558	G6	9250	C3		
42	J7	2263	E8	2306	D4	2564	G10	2626	J2	3306	D3	3569	H9	3606	J3	6559	H7	9251	B4		
43	H13	2264	E6	2309	E6	2565	H9	3251	C10	3307	D4	3570	G9	3607	G3	6560	G7	9252	B5		
1200	F7	2265	D8	2310	D3	2566	G9	3252	B6	3308	D5	3571	H10	3608	J4	6561	H5	9253	B6		
1247	B5	2266	D6	2311	F3	2581	G5	3255	C9	3309	D4	3572	G10	3609	G4	6562	G6	9254	E5		
1251	B9	2267	C8	2312	E2	2582	G5	3256	C6	3315	C5	3573	J10	3610	G2	6563	H8	9255	E5		
1260	D2	2268	C6	2313	F3	2597	G8	3257	C8	3320	D4	3574	H11	3611	G2	6564	H11	9256	D5		
1263	J13	2269	C10	2314	E2	2598	G9	3258	C6	3551	H7	3575	H11	3612	J3	6565	G6	9257	C5		



NOTE :
ITEM MARKED * NOT FOR 3139 118 80910 (AS9402/42)

OLD POWER BOARD CIRCUIT

POWER BOARD DIAGRAM

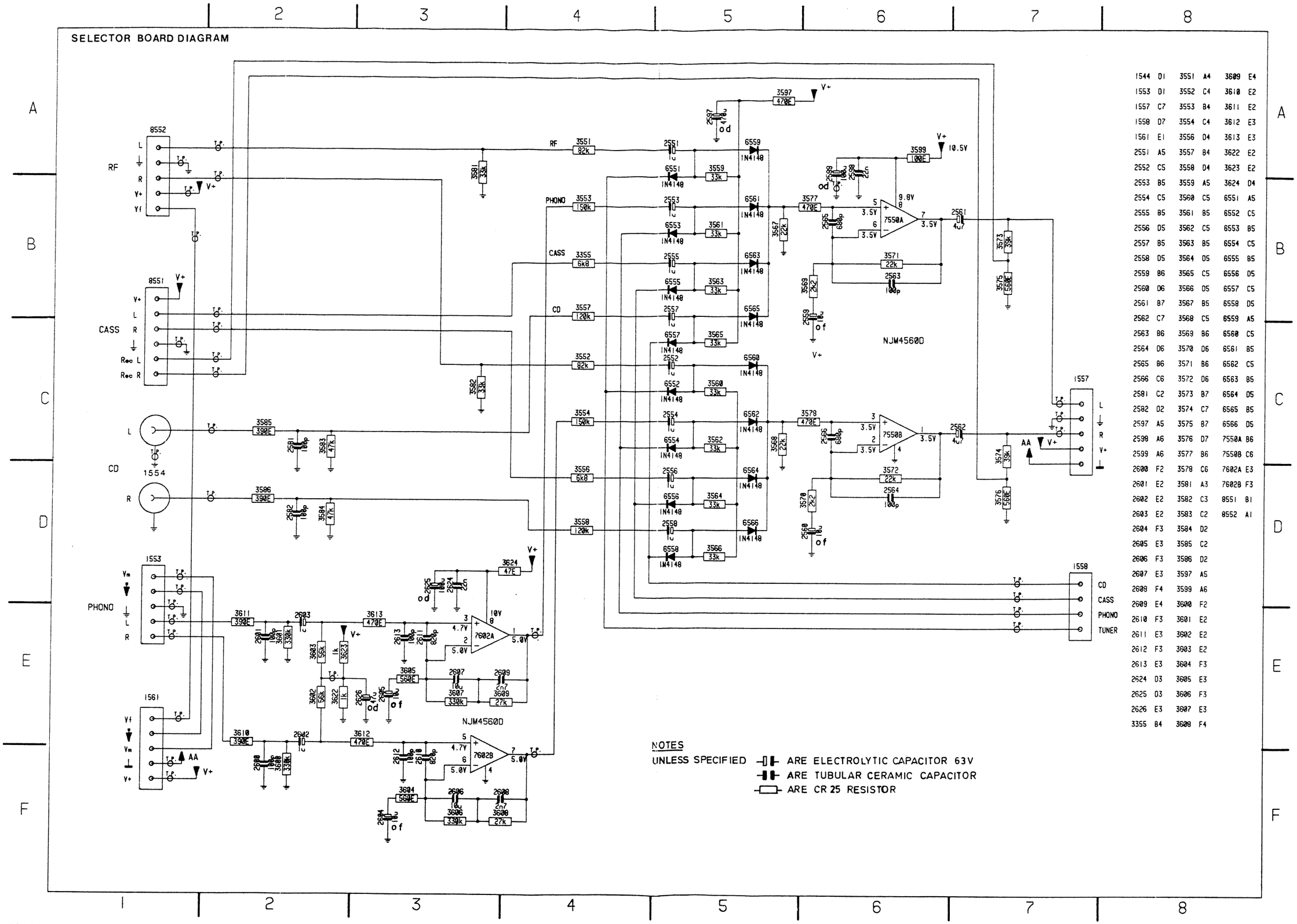


1200A	A7	2373	A5
1200B	D7	2374	C5
1247	D2	2375	A5
1251	A2	2376	C5
1260	F5	3251	A3
1263	E6	3252	C3
1285	B7	3255	B5
2251	A3	3256	C5
2252	B3	3257	B5
2255	B4	3258	D5
2256	D4	3265	A2
2257	B4	3266	C2
2258	D4	3271	B4
2259	A5	3272	D4
2260	C5	3273	B6
2261	A5	3274	D6
2262	C5	3291	B6
2263	A6	3292	B6
2264	D6	3293	B5
2265	B5	3294	B5
2266	D5	3295	C5
2267	B5	3296	D5
2268	D5	3301	E2
2269	B5	3302	E3
2270	D5	3303	E2
2271	A2	3304	F2
2272	C2	3305	E5
2281	B4	3306	F2
2282	C4	3307	F2
2283	A4	3308	E4
2284	C4	3309	F3
2287	B6	3315	E2
2288	C6	3320	F3
2296	C4	6292	C6
2298	C4	6295	C6
2300	E2	6301	E3
2301	E2	6302	E3
2302	F2	6303	F5
2303	E2	7253	B4
2304	F2	7254	D4
2305	E3	7256	D6
2306	F3	7301	E3
2309	F4	7304	E3
2310	F4	7305	F3
2311	F4	8252	E6
2312	F5	8254	E2
2313	F5	8255	E2
2314	F5	8258	B7

NOTES
UNLESS SPECIFIED -||- ARE ELECTROLYTIC CAPACITOR 63V
-||- ARE TUBULAR CERAMIC CAPACITOR
-▭- ARE CR25 RESISTOR

OLD SELECTOR BOARD CIRCUIT

SELECTOR BOARD DIAGRAM



1544	D1	3551	A4	3609	E4
1553	D1	3552	C4	3610	E2
1557	C7	3553	B4	3611	E2
1558	D7	3554	C4	3612	E3
1561	E1	3556	D4	3613	E3
2551	A5	3557	B4	3622	E2
2552	C5	3558	D4	3623	E2
2553	B5	3559	A5	3624	D4
2554	C5	3560	C5	6551	A5
2555	B5	3561	B5	6552	C5
2556	D5	3562	C5	6553	B5
2557	B5	3563	B5	6554	C5
2558	D5	3564	D5	6555	B5
2559	B6	3565	C5	6556	D5
2560	D6	3566	D5	6557	C5
2561	B7	3567	B5	6558	D5
2562	C7	3568	C5	6559	A5
2563	B6	3569	B6	6560	C5
2564	D6	3570	D6	6561	B5
2565	B6	3571	B6	6562	C5
2566	C6	3572	D6	6563	B5
2581	C2	3573	B7	6564	D5
2582	D2	3574	C7	6565	B5
2597	A5	3575	B7	6566	D5
2598	A6	3576	D7	7550A	B6
2599	A6	3577	B6	7550B	C6
2600	F2	3578	C6	7602A	E3
2601	E2	3581	A3	7602B	F3
2602	E2	3582	C3	8551	B1
2603	E2	3583	C2	8552	A1
2604	F3	3584	D2		
2605	E3	3585	C2		
2606	F3	3586	D2		
2607	E3	3597	A5		
2608	F4	3599	A6		
2609	E4	3600	F2		
2610	F3	3601	E2		
2611	E3	3602	E2		
2612	F3	3603	E2		
2613	E3	3604	F3		
2624	D3	3605	E3		
2625	D3	3606	F3		
2626	E3	3607	E3		
3355	B4	3608	F4		

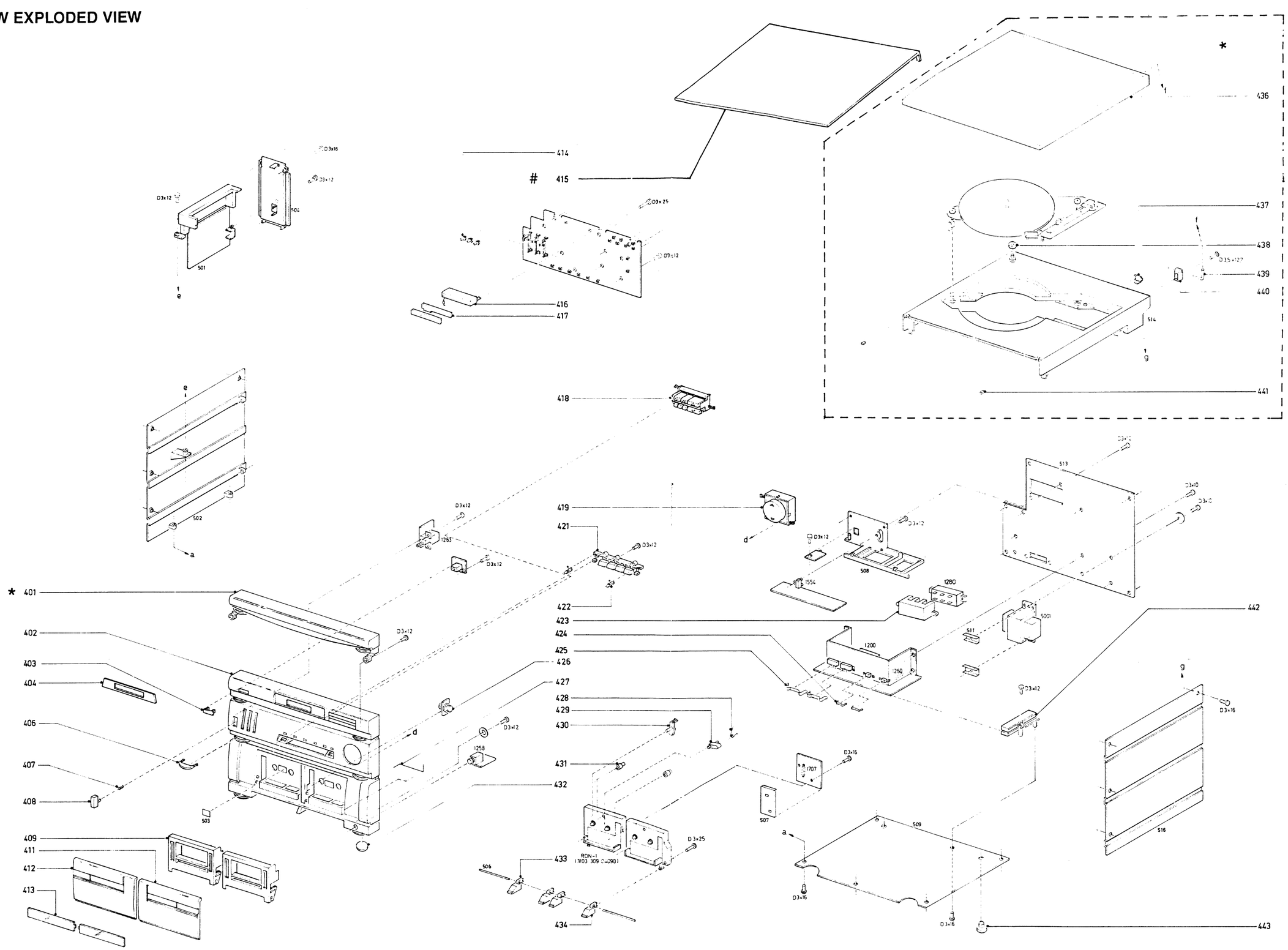
NOTES

UNLESS SPECIFIED
- ARE ELECTROLYTIC CAPACITOR 63V
- ARE TUBULAR CERAMIC CAPACITOR
- ARE CR 25 RESISTOR

NEW POWER/SELECTOR BOARD LAYOUT

| | | |

NEW EXPLODED VIEW

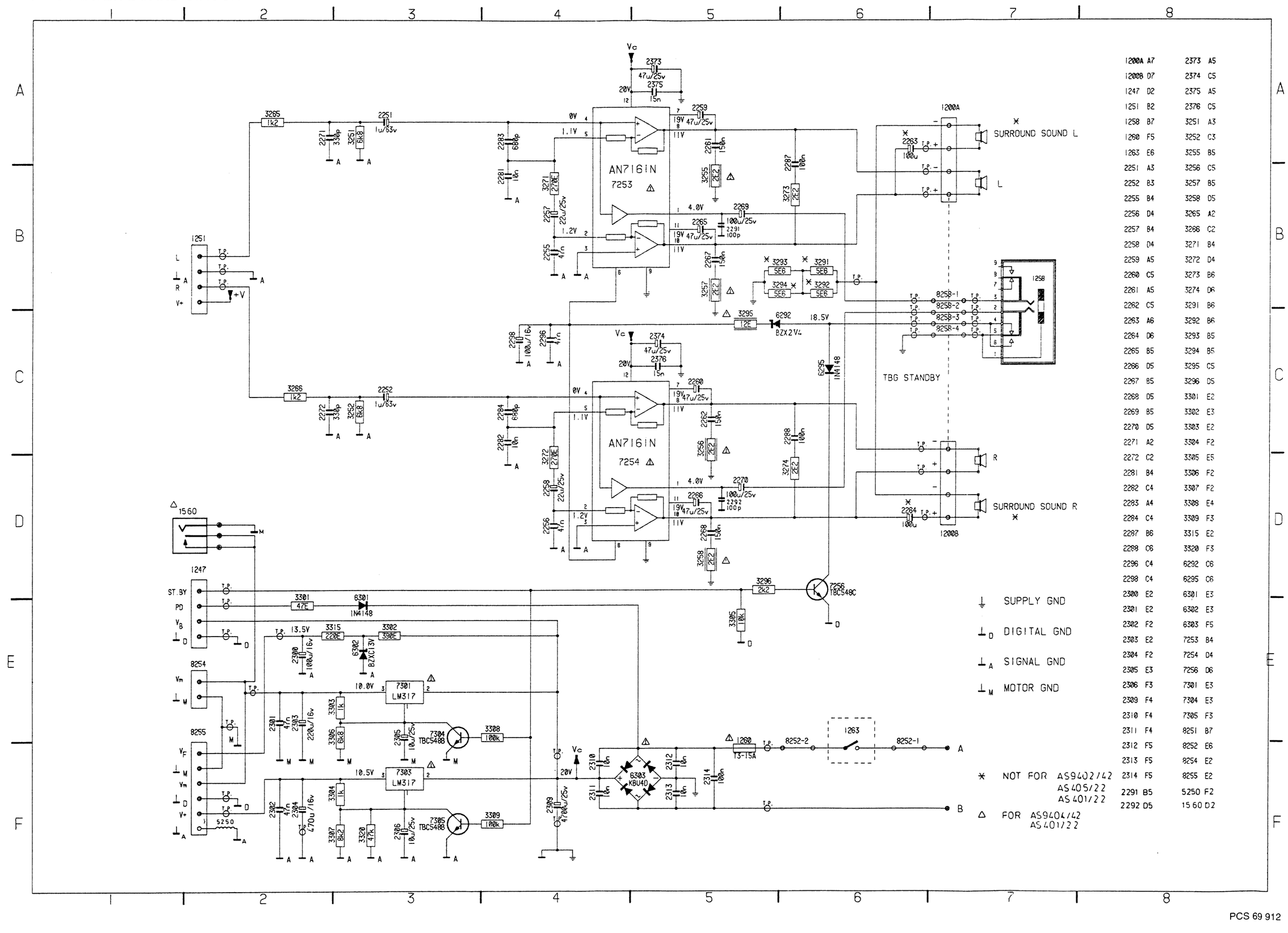


* FOR AS9400 FAMILIES AND AS9402 FAMILIES ONLY
\# FOR AS9403 FAMILIES AND AS9404 FAMILIES ONLY

26896

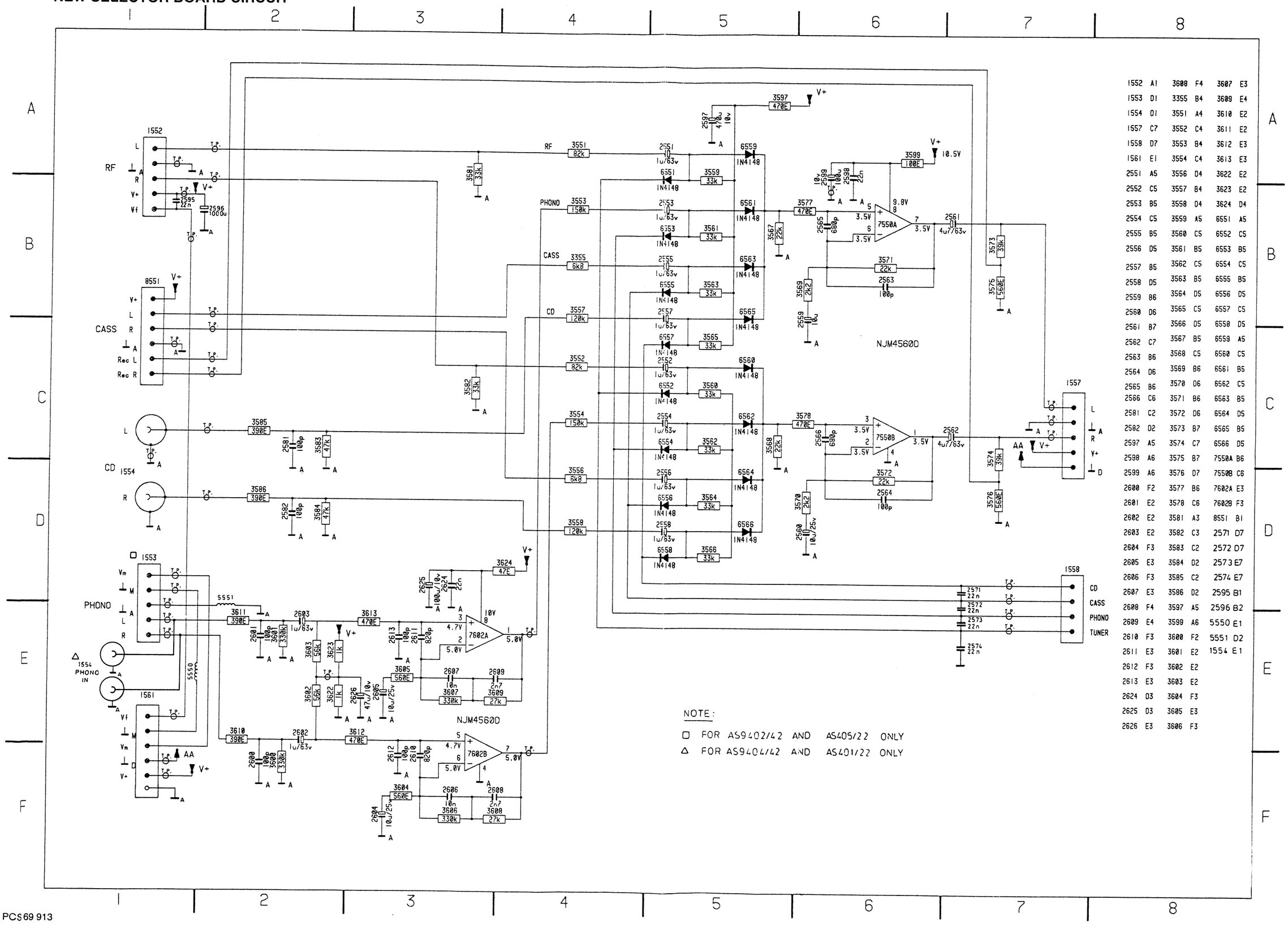
PCS 62 906A

NEW POWER BOARD CIRCUIT



1200A	A7	2373	A5
1200B	D7	2374	C5
1247	D2	2375	A5
1251	B2	2376	C5
1258	B7	3251	A3
1260	F5	3252	C3
1263	E6	3255	B5
2251	A3	3256	C5
2252	B3	3257	B5
2255	B4	3258	D5
2256	D4	3265	A2
2257	B4	3266	C2
2258	D4	3271	B4
2259	A5	3272	D4
2260	C5	3273	B6
2261	A5	3274	D6
2262	C5	3291	B6
2263	A6	3292	B6
2264	D6	3293	B5
2265	B5	3294	B5
2266	D5	3295	C5
2267	B5	3296	D5
2268	D5	3301	E2
2269	B5	3302	E3
2270	D5	3303	E2
2271	A2	3304	F2
2272	C2	3305	E5
2281	B4	3306	F2
2282	C4	3307	F2
2283	A4	3308	E4
2284	C4	3309	F3
2287	B6	3315	E2
2288	C6	3320	F3
2296	C4	6292	C6
2298	C4	6295	C6
2300	E2	6301	E3
2301	E2	6302	E3
2302	F2	6303	F5
2303	E2	7253	B4
2304	F2	7254	D4
2305	E3	7256	D6
2306	F3	7301	E3
2309	F4	7304	E3
2310	F4	7305	F3
2311	F4	8251	B7
2312	F5	8252	E6
2313	F5	8254	E2
2314	F5	8255	E2
2291	B5	5250	F2
2292	D5	1560	D2

NEW SELECTOR BOARD CIRCUIT



1552	A1	3608	F4	3607	E3
1553	D1	3355	B4	3609	E4
1554	D1	3551	A4	3610	E2
1557	C7	3552	C4	3611	E2
1558	D7	3553	B4	3612	E3
1561	E1	3554	C4	3613	E3
2551	A5	3556	D4	3622	E2
2552	C5	3557	B4	3623	E2
2553	B5	3558	D4	3624	D4
2554	C5	3559	A5	6551	A5
2555	B5	3560	C5	6552	C5
2556	D5	3561	B5	6553	B5
2557	B5	3562	C5	6554	C5
2558	D5	3563	B5	6555	B5
2559	B6	3564	D5	6556	D5
2560	D6	3565	C5	6557	C5
2561	B7	3566	D5	6558	D5
2562	C7	3567	B5	6559	A5
2563	B6	3568	C5	6560	C5
2564	D6	3569	B6	6561	B5
2565	B6	3570	D6	6562	C5
2566	C6	3571	B6	6563	B5
2581	C2	3572	D6	6564	D5
2582	D2	3573	B7	6565	B5
2597	A5	3574	C7	6566	D5
2598	A6	3575	B7	7550A	B6
2599	A6	3576	D7	7550B	C6
2600	F2	3577	B6	7602A	E3
2601	E2	3578	C6	7602B	F3
2602	E2	3581	A3	8551	B1
2603	E2	3582	C3	2571	D7
2604	F3	3583	C2	2572	D7
2605	E3	3584	D2	2573	E7
2606	F3	3585	C2	2574	E7
2607	E3	3586	D2	2595	B1
2608	F4	3597	A5	2596	B2
2609	E4	3599	A6	5550	E1
2610	F3	3600	F2	5551	D2
2611	E3	3601	E2	1554	E1
2612	F3	3602	E2		
2613	E3	3603	E2		
2624	D3	3604	F3		
2625	D3	3605	E3		
2626	E3	3606	F3		

NOTE:

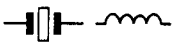
□ FOR AS9402/42 AND AS405/22 ONLY

△ FOR AS9404/42 AND AS401/22 ONLY

PCS69 913

3702	4822 116 52224	470Ω 5% 0.5W
3703	4822 116 52224	470Ω 5% 0.5W
3704	4822 050 22204	220k 1% 0.6W
3705	4822 050 22709	27Ω 1% 0.6W
3706	4822 051 10101	100Ω 2% 0.25W
3709	4822 051 10101	100Ω 2% 0.25W
3710	4822 050 15602	5k6 1% 0.4W
3711	4822 116 52234	100k 5% 0.5W
3712	4822 050 21803	18k 1% 0.6W
3713	4822 050 26802	6k8 1% 0.6W
3716	4822 050 21002	1k 1% 0.6W
3717	4822 050 22202	2k2 1% 0.6W
3718	4822 116 52224	470Ω 5% 0.5W
3719	4822 050 22203	22k 1% 0.6W
3720	4822 116 52224	470Ω 5% 0.5W
3721	4822 116 52224	470Ω 5% 0.5W
3722	4822 116 52224	470Ω 5% 0.5W
3723	4822 116 52224	470Ω 5% 0.5W
3724	4822 050 22204	220k 1% 0.6W
3725	4822 051 10101	100Ω 2% 0.25W
3727	4822 050 22205	2M2 1% 0.6W
3730	4822 050 21002	1k 1% 0.6W
3731	4822 050 23302	3k3 1% 0.6W
3732	4822 050 21003	10k 1% 0.6W
3735	4822 050 21203	12k 1% 0.6W
3736	4822 116 52264	27k 5% 0.5W
3737	4822 116 52224	470Ω 5% 0.5W
3738	4822 050 22203	22k 1% 0.6W
3739	4822 116 52224	470Ω 5% 0.5W
3741	4822 050 21002	1k 1% 0.6W
3742	4822 050 21002	1k 1% 0.6W
3743	4822 050 22203	22k 1% 0.6W
3744	4822 050 22204	220k 1% 0.6W
3745	4822 116 52244	15k 5% 0.5W
3746	4822 116 52224	470Ω 5% 0.5W
3747	4822 116 52234	100k 5% 0.5W
3749	4822 050 24702	4k7 1% 0.6W
3751	4822 116 52224	470Ω 5% 0.5W
3752	4822 116 52224	470Ω 5% 0.5W
3753	4822 116 52224	470Ω 5% 0.5W
3754	4822 050 22204	220k 1% 0.6W
3755	4822 050 22709	27Ω 1% 0.6W
3756	4822 050 21002	1k 1% 0.6W
3760	4822 050 15602	5k6 1% 0.4W
3761	4822 116 52234	100k 5% 0.5W
3763	4822 050 26802	6k8 1% 0.6W
3766	4822 050 21002	1k 1% 0.6W
3767	4822 050 22202	2k2 1% 0.6W
3768	4822 116 52224	470Ω 5% 0.5W
3769	4822 050 22203	22k 1% 0.6W
3770	4822 116 52224	470Ω 5% 0.5W
3771	4822 116 52224	470Ω 5% 0.5W
3772	4822 116 52224	470Ω 5% 0.5W

3773	4822 116 52224	470Ω 5% 0.5W
3774	4822 050 22204	220k 1% 0.6W
3775	4822 051 10101	100Ω 2% 0.25W
3778	4822 052 10189 ⚠	18Ω 5% 0.33W
3779	4822 050 26804	680k 1% 0.6W
3780	4822 050 21002	1k 1% 0.6W
3781	4822 050 23302	3k3 1% 0.6W
3782	4822 050 21002	1k 1% 0.6W
3785	4822 050 21203	12k 1% 0.6W
3786	4822 116 52264	27k 5% 0.5W
3788	4822 050 22203	22k 1% 0.6W
3789	4822 116 52224	470Ω 5% 0.5W
3791	4822 050 21002	1k 1% 0.6W
3792	4822 050 21002	1k 1% 0.6W
3796	4822 050 22203	22k 1% 0.6W
3797	4822 050 21002	1k 1% 0.6W
3798	4822 050 28201	820Ω 1% 0.6W
3799	4822 116 52234	100k 5% 0.5W



5701	4822 157 51238	Coil 820µH
5702	4822 157 51238	Coil 820µH

6701	4822 130 30621	1N4148
6702	4822 130 30621	1N4148
6705	4822 130 30621	1N4148
6706	4822 130 30621	1N4148
6707	4822 130 30621	1N4148
6710	4822 130 30621	1N4148
6712	4822 130 30621	1N4148

7701	4822 209 72491	KA2224
7702	4822 209 70288	UPC1313HA
7703	4822 130 40937	BC548B
7704	4822 130 40937	BC548B
7706	5322 130 44779	BC338-40
7707	5322 130 44779	BC338-40
7708	4822 130 44197	BC558B
7709	4822 130 40937	BC548B
7712	4822 130 44196	TBC548C
7713	4822 130 44197	BC558B
7753	4822 130 40937	BC548B
7756	5322 130 44779	BC338-40
7757	5322 130 44779	BC338-40

Note : Only the mentioned parts are normal service parts.

MECHANICAL PARTSLIST

401	4822 426 40415	For AS9402 only
402	4822 426 51435	For AS9402 only
402	4822 426 51407	For AS9404 only
403	4822 450 61524	
404	4822 450 61533	
406	4822 426 60577	
407	4822 492 52128	
408	4822 410 60553	
409	4822 443 62936	
411	4822 426 60576	
412	4822 426 60575	
413	4822 450 61516	
414	4822 411 61677	
415	4822 691 10344	For AS9404 only
416	4822 256 91477	
417	4822 466 70666	
418	4822 410 60584	
419	4822 413 51332	
421	4822 410 60609	
422	4822 466 70678	
423	Not Applicable	
424	4822 492 63051	
425	4822 255 41035	
426	4822 529 10278	
427	4822 492 42595	
428	4822 492 70426	
429	4822 403 30772	
430	4822 404 21073	
431	4822 466 92641	
432	4822 462 40683	
433	4822 410 60551	
434	4822 410 60552	
436	4822 462 71645	For AS9402 only
437	4822 460 10589	For AS9402 only
438	4822 466 92642	For AS9402 only
439	4822 417 10631	For AS9402 only
440	4822 417 10631	For AS9402 only
441	4822 466 92643	For AS9402 only
442	4822 404 21216	
443	4822 462 41535	

Note : Only the mentioned parts are normal service parts.

TAPECORE BOARD ELECTRICAL PARTSLIST

MISCELLANEOUS

1707	4822 277 20594	Record Switch

⊣⊢

2701	4822 122 10173	820pF 10% 50V
2702	4822 122 10182	100pF 5% 50V
2703	4822 124 41584	100µF 20% 10V
2704	4822 126 11595	470pF 10% 50V
2705	4822 126 11325	4.7nF 10% 50V
2706	4822 124 40433	47µF 20% 25V
2708	4822 124 40435	10µF 20% 50V
2709	4822 121 41857	10nF 5% 250V
2711	4822 124 22633	22µF 20% 35V
2712	4822 126 11311	4.7nF 50V
2713	4822 124 40433	47µF 20% 25V
2720	4822 122 10174	1.5nF 10% 50V
2721	4822 122 30054	1.2nF 10% 100V
2722	4822 124 22466	1µF 20% 50V
2723	4822 124 22633	22µF 20% 35V
2724	4822 126 11595	470pF 10% 50V
2725	4822 124 40433	47µF 20% 25V
2726	4822 124 40433	47µF 20% 25V
2728	4822 124 40435	10µF 20% 50V
2730	4822 126 11325	4.7nF 10% 50V
2731	4822 121 41857	10nF 5% 250V
2732	4822 122 10158	1nF 10% 50V
2751	4822 122 10173	820pF 10% 50V
2753	4822 124 41584	100µF 20% 10V
2754	4822 126 11595	470pF 10% 50V
2758	4822 124 40435	10µF 20% 50V
2759	4822 121 41857	10nF 5% 250V
2762	4822 126 11311	4.7nF 50V
2770	4822 122 10174	1.5nF 10% 50V
2771	4822 122 30054	1.2nF 10% 100V
2772	4822 124 22466	1µF 20% 50V
2773	4822 124 22633	22µF 20% 35V
2774	4822 126 11595	470pF 10% 50V
2775	4822 124 40184	1000µF 20% 10V
2778	4822 124 40435	10µF 20% 50V
2781	4822 121 41857	10nF 5% 250V
2782	4822 122 10158	1nF 10% 50V
2783	4822 121 41935	12nF 5% 250V
2784	4822 124 40242	1µF 20% 63V
2785	4822 121 51305	15nF 10% 50V
2786	4822 122 10183	100pF 5% 50V
2788	4822 124 40433	47µF 20% 25V
2789	4822 124 40433	47µF 20% 25V
2790	4822 124 40433	47µF 20% 25V

3701	4822 116 52224	470Ω 5% 0.5W

TUNER BOARD ELECTRICAL PARTSLIST

MISCELLANEOUS

1100	4822 267 31128	Aerial Socket

⊣⊢

2100	4822 122 31555	120pF 5% 50V
2103	4822 125 60102	Trimmer 5.2pF-30pF 100V
2104	5322 122 32658	22pF 5% 50V
2105	5322 122 32531	100pF 5% 50V
2106	4822 122 31727	470pF 2% 63V
2107	4822 122 31727	470pF 2% 63V
2108	4822 122 31727	470pF 2% 63V
2109	4822 125 60102	Trimmer 5.2pF-30pF 100V
2111	4822 125 60102	Trimmer 5.2pF-30pF 100V
2112	4822 122 31727	470pF 2% 63V
2113	4822 122 31727	470pF 2% 63V
2114	4822 122 31974	820pF 10% 63V
2115	5322 122 33869	15pF 5% 63V
2116	5322 122 32658	22pF 5% 50V
2117	4822 122 32139	12pF 2% 63V
2118	4822 122 31971	10pF 2% 63V
2119	4822 124 40181	220µF 20% 10V
2120	5322 122 32654	22nF 10% 63V
2123	4822 122 31555	120pF 5% 50V
2124	4822 122 31727	470pF 2% 63V
2125	5322 122 33538	150pF 5% 63V
2126	5322 122 33538	150pF 5% 63V
2127	5322 122 32654	22nF 10% 63V
2128	5322 122 32661	56pF 5% 50V
2129	5322 122 32654	22nF 10% 63V
2130	4822 124 41584	100µF 20% 10V
2131	4822 124 40244	2.2µF 20% 63V
2132	5322 122 34123	1nF 10% 50V
2133	4822 122 32504	15pF 2% 63V
2134	5322 121 50999	470pF 1% 400V
2135	4822 121 43253	360pF 1% 400V
2136	4822 126 10388	5.6pF 50V
2137	4822 122 10436	6.8pF 10% 50V
2138	4822 122 32482	22pF 2% 63V
2139	4822 122 10166	22nF 30% 16V
2140	4822 122 32927	220nF +80-20% 50V
2141	4822 122 31385	22pF 50V
2142	5322 122 32452	47pF 5% 63V
2143	5322 122 32452	47pF 5% 63V
2144	4822 124 40181	220µF 20% 10V
2146	4822 122 32096	4.7pF 10% 50V
2147	4822 122 31727	470pF 2% 63V
2148	4822 122 31727	470pF 2% 63V
2149	5322 122 33537	1.2pF 5% 63V
2150	4822 121 42408	220nF 5% 63V
2151	4822 125 60101	Trimmer 3pF-11pF 100V
2152	4822 121 51288	100pF 630V
2153	4822 125 60102	Trimmer 5.2pF-30pF 100V

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2155	4822 124 41631	1.5µF 50V
2156	5322 126 10223	4.7nF 10% 63V
2157	5322 126 10223	4.7nF 10% 63V
2158	4822 124 40196	220µF 20% 16V
2159	5322 122 32654	22nF 10% 63V
2160	4822 122 31727	470pF 2% 63V
2161	4822 124 40246	4.7µF 20% 63V
2162	4822 122 32142	270pF 2% 63V
2164	4822 126 10333	560pF 10% 63V
2165	4822 124 41398	1µF 20% 63V
2166	5322 122 32654	22nF 10% 63V
2167	4822 124 41973	100µF 20% 16V
2168	5322 121 50999	470pF 1% 400V
2169	5322 122 32654	22nF 10% 63V
2170	4822 124 40239	0.47µF 20% 63V
2171	4822 122 31727	470pF 2% 63V
2172	4822 124 41987	0.22µF 63V
2173	4822 124 40246	4.7µF 20% 63V
2174	4822 122 33128	15nF 10% 63V
2175	4822 122 33128	15nF 10% 63V
2176	4822 124 41398	1µF 20% 63V
2177	4822 124 41398	1µF 20% 63V
2178	4822 126 10333	560pF 10% 63V
2179	4822 122 31727	470pF 2% 63V
2180	5322 122 32965	18pF 5% 50V
2181	5322 122 33869	15pF 5% 63V
2182	4822 124 41398	1µF 20% 63V
2183	4822 122 32927	220nF +80-20% 50V
2184	4822 122 31727	470pF 2% 63V
2185	4822 122 31974	820pF 10% 63V
2186	4822 122 31727	470pF 2% 63V
2187	4822 122 31727	470pF 2% 63V
2188	4822 122 31727	470pF 2% 63V
2189	4822 122 31727	470pF 2% 63V
2191	5322 126 10185	3.9pF 5% 50V
2192	4822 122 32927	220nF +80-20% 50V
2193	4822 122 31974	820pF 10% 63V
2194	4822 122 33515	82pF 5% 63V
2195	4822 122 32927	220nF +80-20% 50V
2198	5322 122 33869	15pF 5% 63V
2199	5322 122 33538	150pF 5% 63V
2200	5322 122 31647	1nF 10% 63V

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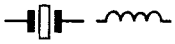
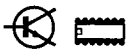
3101	4822 051 20473	47k 5% 0.1W
3102	4822 051 20333	33k 5% 0.1W
3103	4822 051 20472	4k7 5% 0.1W
3104	4822 051 20102	1k 5% 0.1W
3105	4822 050 23901	390Ω 1% 0.6W
3106	4822 116 52224	470Ω 5% 0.5W
3107	4822 050 24702	4k7 1% 0.6W

3108	4822 051 10122	1k2 2% 0.25W
3109	4822 051 10101	100Ω 2% 0.25W
3111	4822 050 24703	47k 1% 0.6W
3112	4822 051 20008	0Ω 5% 0.1W
3113	4822 051 20689	68Ω 5% 0.1W
3114	4822 100 20166	10k 30%LIN 0.1W
3115	4822 051 20479	47Ω 5% 0.1W
3116	4822 050 21001	100Ω 1% 0.6W
3117	4822 051 20103	10k 5% 0.1W
3118	4822 051 20271	270Ω 5% 0.1W
3120	4822 050 23903	39k 1% 0.6W
3121	4822 051 20104	100k 5% 0.1W
3122	4822 051 20272	2k7 5% 0.1W
3124	4822 051 20008	0Ω 5% 0.1W
3125	4822 050 24702	4k7 1% 0.6W
3126	4822 050 22202	2k2 1% 0.6W
3127	4822 051 20472	4k7 5% 0.1W
3128	4822 050 24702	4k7 1% 0.6W
3129	4822 051 20104	100k 5% 0.1W
3130	4822 051 20104	100k 5% 0.1W
3131	4822 050 23301	330Ω 1% 0.6W
3132	4822 050 26801	680Ω 1% 0.6W
3133	4822 051 20223	22k 5% 0.1W
3134	4822 050 24702	4k7 1% 0.6W
3135	4822 050 22201	220Ω 1% 0.6W
3136	4822 051 20153	15k 5% 0.1W
3137	4822 051 20562	5k6 5% 0.1W
3138	4822 051 20472	4k7 5% 0.1W
3139	4822 050 24702	4k7 1% 0.6W
3140	4822 051 20102 ⚠	1k 5% 0.1W
3141	4822 050 21003	10k 1% 0.6W
3142	4822 050 21001	100Ω 1% 0.6W
3143	4822 050 22203	22k 1% 0.6W
3144	4822 051 20183	18k 5% 0.1W
3145	4822 100 20166	10k 30%LIN 0.1W
3146	4822 051 20472 ⚠	4k7 5% 0.1W
3147	4822 050 21801	180Ω 1% 0.6W
3148	4822 050 21003	10k 1% 0.6W
3149	4822 050 21002	1k 1% 0.6W
3150	4822 050 21002	1k 1% 0.6W
3151	4822 050 21002	1k 1% 0.6W
3153	4822 050 21002	1k 1% 0.6W
3156	4822 051 20223	22k 5% 0.1W
3157	4822 051 20008	0Ω 5% 0.1W
3158	4822 051 20104	100k 5% 0.1W
3160	4822 051 20008	0Ω 5% 0.1W
3161	4822 051 20473	47k 5% 0.1W
3162	4822 051 20479	47Ω 5% 0.1W
3163	4822 051 20562	5k6 5% 0.1W
3164	4822 051 20008	0Ω 5% 0.1W
3170	4822 051 20008	0Ω 5% 0.1W
3173	4822 050 21002	1k 1% 0.6W



5101	4822 156 30947	RF COIL 1.5T
5102	4822 156 30947	RF COIL 1.5T
5103	4822 156 30947	RF COIL 1.5T
5104	4822 157 53199	Oscillator Coil
5105	4822 156 10459	AM COIL OSC
5106	4822 157 53192	0.22µH ±20%
5107	4822 242 72096	Ceramic Filter
5108	4822 158 60511	AM-1F COIL
5109	4822 242 71878	Ceramic Filter
5110	4822 526 10466	Ferroceptor
5111	4822 157 60373	FM 1F COIL
5112	4822 303 50034	7.2MHz Crystal
5113	4822 157 53447	Bead Inductor
5114	4822 158 60509	Adjustable Coil
5115	4822 157 53447	Bead Inductor

6101	4822 130 81643	BB804
6102	4822 130 81643	BB804
6104	4822 130 32227	OF642
6105	4822 130 32227	OF642
6107	4822 130 34174	BZX79-C4V7
6110	4822 130 81643	BB804
6111	4822 130 81643	BB804



7101	4822 130 60163	2SC1047
7102	4822 130 60093	2SA838B
7103	4822 209 72744	CXA1240P
7104	4822 130 44154	BF199
7105	4822 130 44196	TBC548C
7106	4822 209 71321	AN7411
7107	4822 130 60163	2SC1047
7108	5322 130 44779	BC338-40
7109	5322 130 44779	BC338-40
7110	4822 209 71331	LM7000
7111	5322 130 42755	BC847C
7112	4822 130 60163	2SC1047
7113	5322 130 42755	BC847C
7114	5322 130 42755	BC847C
7115	5322 130 42755	BC847C

Note : Only the mentioned parts are normal service parts.

FEATURE BOARD ELECTRICAL PARTSLIST

MISCELLANEOUS

1401	4822 276 12465	Phone Selector Assy
1402	4822 276 12465	Tape Selector SW
1403	4822 276 12465	CD/TV Selector SW
1404	4822 276 12465	Tuner Selector SW
1405	4822 276 12465	DBB Selector SW
1406	4822 276 12465	FM/AM Selector SW
1407	4822 276 12465	Tuning Up SW
1408	4822 276 12465	Mono/Stereo Selector SW
1409	4822 276 12465	Program Memo SW
1410	4822 276 12465	Tuning Down SW
1411	4822 276 12465	Preset Up SW
1412	4822 276 12465	Preset Down SW
1420	4822 130 90954	LCD Display
1421	4822 134 40965	12V 0.15A Lamp
1422	4822 267 31051	1P RC Socket
1510	4822 276 12465	Volume Control SW
1511	4822 276 12465	Volume Control SW
1690	4822 276 12465	High Speed Dubbing SW

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2401	5322 124 41431	22µF 20% 35V
2402	4822 124 40248	10µF 20% 63V
2403	4822 124 42216	100µF 20% 10V
2405	4822 124 23175	4.7µF 20% 63V
2408	4822 124 40177	47µF 20% 10V
2411	4822 121 42408	220nF 5% 63V
2412	4822 122 10177	10nF 20% 25V
2413	4822 124 40244	2.2µF 20% 63V
2415	4822 122 10166	22nF 30% 16V
2417	5322 126 10181	100nF 25V
2418	5322 121 42498	680nF 5% 63V
2420	4822 122 10166	22nF 30% 16V
2421	4822 126 11313	22nF 25V
2422	4822 122 10177	10nF 20% 25V
2423	4822 126 11593	10nF 10% 50V
2430	4822 126 11316	47nF 50V
2431	4822 126 11316	47nF 50V
2432	4822 126 11316	47nF 50V
2433	4822 126 11316	47nF 50V
2460	4822 124 41584	100µF 20% 10V
2501	4822 121 43945	8.2nF 20%
2502	4822 121 43945	8.2nF 20%
2503	4822 122 10165	3.3nF 10% 50V
2504	4822 122 10165	3.3nF 10% 50V
2505	4822 122 33519	470pF 10% 50V
2506	4822 122 33519	470pF 10% 50V
2507	4822 121 43944	5.6nF 20%
2508	4822 121 43944	5.6nF 20%
2509	4822 122 31464	1.5nF 10%
2510	4822 122 31464	1.5nF 10%
2511	5322 126 10181	100nF 25V

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2512	5322 126 10181	100nF 25V
2513	4822 122 33849	150pF 10% 50V
2514	4822 122 33849	150pF 10% 50V
2515	4822 124 41398	1µF 20% 63V
2516	4822 124 41398	1µF 20% 63V
2517	4822 124 41398	1µF 20% 63V
2518	4822 124 41398	1µF 20% 63V
2526	4822 124 41398	1µF 20% 63V
2527	4822 124 41398	1µF 20% 63V
2528	4822 124 22466	1µF 20% 50V
2529	4822 124 22466	1µF 20% 50V
2530	4822 121 43144	22nF 10% 50V
2531	4822 121 43144	22nF 10% 50V
2532	4822 124 40244	2.2µF 20% 63V
2533	4822 124 40244	2.2µF 20% 63V
2534	4822 124 40244	2.2µF 20% 63V
2535	4822 124 40244	2.2µF 20% 63V
2536	4822 124 40177	47µF 20% 10V
2537	4822 126 11313	22nF 25V
2538	4822 124 23175	4.7µF 20% 63V
2539	4822 126 11313	22nF 25V
2540	4822 124 40248	10µF 20% 63V
2542	4822 124 23175	4.7µF 20% 63V
2544	4822 124 41973	100µF 20% 16V
2545	4822 124 40248	10µF 20% 63V
2550	4822 126 11592	1nF 10% 50V
2551	4822 122 10158	1nF 10% 50V
2552	4822 122 10158	1nF 10% 50V
2557	4822 122 33996	39pF 5%
2558	4822 122 33996	39pF 5%
2696	4822 122 10166	22nF 30% 16V
2697	4822 122 10166	22nF 30% 16V
2698	4822 124 41398	1µF 20% 63V
2699	4822 126 11313	22nF 25V

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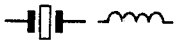
3401	4822 052 10108	⚠	1Ω 5% 0.33W
3402	4822 050 11002		1k 1% 0.4W
3403	4822 050 24709		47Ω 1% 0.6W
3404	4822 050 23301		330Ω 1% 0.6W
3405	4822 050 23902		3k9 1% 0.6W
3406	4822 116 52289		5k6 5% 0.5W
3407	4822 050 23902		3k9 1% 0.6W
3408	4822 050 24702		4k7 1% 0.6W
3409	4822 050 28203		82k 1% 0.6W
3410	4822 050 28203		82k 1% 0.6W
3411	4822 050 21003		10k 1% 0.6W
3412	4822 116 52234		100k 5% 0.5W
3414	4822 116 52234		100k 5% 0.5W
3416	4822 050 21003		10k 1% 0.6W
3418	4822 050 22202		2k2 1% 0.6W

3419	4822 050 21003	10k 1% 0.6W
3420	4822 116 52234	100k 5% 0.5W
3421	4822 050 22202	2k2 1% 0.6W
3422	4822 050 24703	47k 1% 0.6W
3423	4822 050 24703	47k 1% 0.6W
3424	4822 050 24703	47k 1% 0.6W
3425	4822 116 52251	18k 5% 0.5W
3426	4822 050 24702	4k7 1% 0.6W
3427	4822 050 11002	1k 1% 0.4W
3428	4822 050 11002	1k 1% 0.4W
3429	4822 116 52234	100k 5% 0.5W
3430	4822 050 24702	4k7 1% 0.6W
3431	4822 050 24702	4k7 1% 0.6W
3432	4822 050 24702	4k7 1% 0.6W
3433	4822 050 24702	4k7 1% 0.6W
3434	4822 050 24703	47k 1% 0.6W
3437	4822 050 11002	1k 1% 0.4W
3438	4822 116 52234	100k 5% 0.5W
3439	4822 050 11002	1k 1% 0.4W
3440	4822 050 24702	4k7 1% 0.6W
3441	4822 050 24702	4k7 1% 0.6W
3442	4822 050 11002	1k 1% 0.4W
3444	4822 116 52289	5k6 5% 0.5W
3445	4822 050 24703	47k 1% 0.6W
3446	4822 050 11503	15k 1% 0.4W
3447	4822 050 24702	4k7 1% 0.6W
3448	4822 050 23301	330Ω 1% 0.6W
3451	4822 050 15601	560Ω 1% 0.4W
3452	4822 050 13901	390Ω 1% 0.4W
3453	4822 116 52271	33k 5% 0.5W
3454	4822 050 21003	10k 1% 0.6W
3456	4822 050 24703	47k 1% 0.6W
3457	4822 050 24703	47k 1% 0.6W
3458	4822 116 52251	18k 5% 0.5W
3459	4822 050 21003	10k 1% 0.6W
3460	4822 116 52234	100k 5% 0.5W
3461	4822 050 24702	4k7 1% 0.6W
3462	4822 050 21003	10k 1% 0.6W
3463	4822 116 52234	100k 5% 0.5W
3467	4822 050 24701	470Ω 1% 0.6W
3470	4822 050 24702	4k7 1% 0.6W
3471	4822 050 11002	1k 1% 0.4W
3489	4822 050 11002	1k 1% 0.4W
3490	4822 050 11002	1k 1% 0.4W
3491	4822 050 21003	10k 1% 0.6W
3492	4822 050 21003	10k 1% 0.6W
3493	4822 116 52289	5k6 5% 0.5W
3494	4822 116 52289	5k6 5% 0.5W
3495	4822 050 24702	4k7 1% 0.6W
3501	4822 050 24703	47k 1% 0.6W
3502	4822 050 24703	47k 1% 0.6W
3503	4822 050 22203	22k 1% 0.6W

3504	4822 050 22203	22k 1% 0.6W
3505	4822 050 11503	15k 1% 0.4W
3506	4822 050 11503	15k 1% 0.4W
3507	4822 105 11051	Pot 100kBX2
3509	4822 105 11051	Pot 100kBX2
3511	4822 105 11051	Pot 100kBX2
3513	4822 050 24703	47k 1% 0.6W
3514	4822 050 24703	47k 1% 0.6W
3515	4822 116 52251	18k 5% 0.5W
3516	4822 116 52251	18k 5% 0.5W
3517	4822 050 22203	22k 1% 0.6W
3518	4822 050 22203	22k 1% 0.6W
3519	4822 050 11503	15k 1% 0.4W
3520	4822 050 11503	15k 1% 0.4W
3521	4822 116 83958	1M5 5% 0.125W
3522	4822 116 83958	1M5 5% 0.125W
3523	4822 050 23302	3k3 1% 0.6W
3524	4822 050 23302	3k3 1% 0.6W
3525	4822 052 10479 ⚠	47Ω 5% 0.33W
3526	4822 050 22203	22k 1% 0.6W
3527	4822 050 22203	22k 1% 0.6W
3528	4822 116 52271	33k 5% 0.5W
3529	4822 116 52271	33k 5% 0.5W
3530	4822 050 21502	1k5 1% 0.6W
3531	4822 050 21502	1k5 1% 0.6W
3532	4822 116 52289	5k6 5% 0.5W
3533	4822 116 52289	5k6 5% 0.5W
3534	4822 050 11002	1k 1% 0.4W
3535	4822 050 11002	1k 1% 0.4W
3536	4822 050 11504	150k 1% 0.4W
3537	4822 050 11504	150k 1% 0.4W
3538	4822 116 52234	100k 5% 0.5W
3539	4822 116 52271	33k 5% 0.5W
3540	4822 116 52234	100k 5% 0.5W
3541	4822 050 21003	10k 1% 0.6W
3542	4822 050 22202	2k2 1% 0.6W
3544	4822 052 10479 ⚠	47Ω 5% 0.33W
3545	4822 050 21003	10k 1% 0.6W
3546	4822 050 21003	10k 1% 0.6W
3547	4822 050 21003	10k 1% 0.6W
3548	4822 050 22203	22k 1% 0.6W
3549	4822 050 21003	10k 1% 0.6W
3689	4822 050 22203	22k 1% 0.6W
3691	4822 050 13901	390Ω 1% 0.4W
3692	4822 050 28203	82k 1% 0.6W
3693	4822 116 52234	100k 5% 0.5W
3694	4822 116 52251	18k 5% 0.5W
3695	4822 116 52234	100k 5% 0.5W
3696	4822 050 26803	68k 1% 0.6W
3697	4822 116 52234	100k 5% 0.5W
3698	4822 116 52234	100k 5% 0.5W

FEATURE BOARD ELECTRICAL PARTSLIST



5401	4822 242 73577	Crystal 4.5MHz

6401	4822 130 34173	BZX79-C5V6
6402	5322 130 30684	1N4002
6406	4822 130 30621	1N4148
6407	4822 130 30621	1N4148
6408	4822 130 30621	1N4148
6410	4822 130 30621	1N4148
6411	4822 130 30621	1N4148
6412	4822 130 30621	1N4148
6413	4822 130 30621	1N4148
6414	4822 130 30621	1N4148
6415	4822 130 30621	1N4148
6418	4822 130 30621	1N4148
6420	4822 214 52009	GP1U58XP
6435	4822 130 31274	TLR124
6450	4822 130 32472	TLG124A
6470	4822 130 34197	BZX79-C12
6521	4822 130 30621	1N4148
6522	4822 130 30621	1N4148
6545	4822 130 30621	1N4148
6690	4822 130 32472	TLG124A

7400	4822 209 62996	TMP47C221AF-4257
7401	5322 130 44779	BC338-40
7403	4822 209 31168	ST93C06B1
7405	4822 130 44197	TBC558B
7407	4822 130 40937	TBC548B
7409	4822 130 40937	TBC548B
7410	4822 130 40937	TBC548B
7411	4822 130 40937	TBC548B
7413	4822 130 40937	TBC548B
7420	4822 130 44197	TBC558B
7421	4822 130 40937	TBC548B
7422	4822 130 40937	TBC548B
7435	4822 130 44196	TBC548C
7450	4822 130 44197	TBC558B
7451	4822 130 40937	TBC548B
7452	4822 130 44246	TBC549C
7453	4822 130 44246	TBC549C
7456	4822 130 40937	TBC548B
7460	4822 130 40937	TBC548B
7461	4822 130 40937	TBC548B
7462	4822 130 44197	TBC558B
7470	4822 130 41327	BC327-40
7471	4822 130 44197	TBC558B

7501	4822 130 44246	TBC549C
7502	4822 130 44246	TBC549C
7510	4822 209 30537	TC9153P
7511	4822 209 83274	NJM4560D
7512	4822 130 40937	TBC548B
7513	4822 130 40937	TBC548B
7514	4822 130 44197	TBC558B
7515	4822 130 40937	TBC548B
7516	4822 130 40937	TBC548B
7517	4822 130 40937	TBC548B
7518	4822 130 40937	TBC548B
7694	4822 130 40937	TBC548B
7695	4822 130 40937	TBC548B
7696	4822 130 40937	TBC548B
7697	4822 130 40937	TBC548B
7698	4822 130 44196	TBC548C
7699	4822 209 10248	HEF4013BP

Note : Only the mentioned parts are normal service parts.

POWER BOARD ELECTRICAL PARTSLIST

MISCELLANEOUS

1200	4822 267 31176	Speaker Socket
1258	4822 267 30968	Headphone Socket
1260	4822 070 33152	Fuse 3.15A
1263	4822 276 12887	Power ON/OFF Switch
1554	4822 267 30631	Cinch Socket For AS9402 only
1554	4822 266 30293	Cinch Socket For AS9404 only
1560	4822 264 30175	Phono Supply Socket For AS9404 only

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2251	4822 124 41398	1µF 20% 63V
2252	4822 124 41398	1µF 20% 63V
2255	4822 121 43526	47nF 5% 100V
2256	4822 121 43526	47nF 5% 100V
2257	5322 124 41431	22µF 20% 35V
2258	5322 124 41431	22µF 20% 35V
2259	4822 124 41397	47µF 20% 25V
2260	4822 124 41397	47µF 20% 25V
2261	4822 121 43943	150nF 10% 50V
2262	4822 121 43943	150nF 10% 50V
2265	4822 124 41397	47µF 20% 25V
2266	4822 124 41397	47µF 20% 25V
2267	4822 121 43943	150nF 10% 50V
2268	4822 121 43943	150nF 10% 50V
2269	4822 124 41551	100µF 20% 25V
2270	4822 124 41551	100µF 20% 25V
2271	4822 122 31466	330pF 10% 50V
2272	4822 122 31466	330pF 10% 50V
2281	4822 122 10177	10nF 20% 25V
2282	4822 122 10177	10nF 20% 25V
2283	4822 122 31381	680pF 10% 50V
2284	4822 122 31381	680pF 10% 50V
2287	4822 122 32039	100nF 20% 25V
2288	4822 122 32039	100nF 20% 25V
2291	4822 122 10183	100pF 5% 50V
2292	4822 122 10183	100pF 5% 50V
2295	4822 122 10172	220pF 10% 50V
2296	4822 126 11316	47nF 50V
2298	4822 124 41551	100µF 20% 25V
2300	4822 124 41973	100µF 20% 16V
2301	4822 126 11316	47nF 50V
2302	4822 126 11316	47nF 50V
2303	4822 124 40196	220µF 20% 16V
2304	4822 124 42218	470µF 20% 10V
2305	4822 124 40248	10µF 20% 63V
2306	4822 124 40248	10µF 20% 63V
2309	4822 124 42119	4700µF 20% 25V
2310	4822 121 41815	10nF 10% 100V
2311	4822 121 41815	10nF 10% 100V

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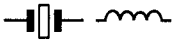
2312	4822 121 41815	10nF 10% 100V
2313	4822 121 41815	10nF 10% 100V
2314	4822 121 42007	100nF 10% 100V
2373	4822 124 41397	47µF 20% 25V
2374	4822 124 41397	47µF 20% 25V
2375	4822 126 11097	15nF 20%
2376	4822 126 11097	15nF 20%
2551	4822 124 41398	1µF 20% 63V
2552	4822 124 41398	1µF 20% 63V
2553	4822 124 41398	1µF 20% 63V
2554	4822 124 41398	1µF 20% 63V
2555	4822 124 41398	1µF 20% 63V
2556	4822 124 41398	1µF 20% 63V
2557	4822 124 41398	1µF 20% 63V
2558	4822 124 41398	1µF 20% 63V
2559	4822 124 40248	10µF 20% 63V
2560	4822 124 40248	10µF 20% 63V
2561	4822 124 23175	4.7µF 20% 63V
2562	4822 124 23175	4.7µF 20% 63V
2563	4822 122 10183	100pF 5% 50V
2564	4822 122 10183	100pF 5% 50V
2565	4822 122 31381	680pF 10% 50V
2566	4822 122 31381	680pF 10% 50V
2571	4822 126 11313	22nF 25V
2572	4822 126 11313	22nF 25V
2573	4822 126 11313	22nF 25V
2574	4822 122 10166	22nF 30% 16V
2581	4822 122 10183	100pF 5% 50V
2582	4822 122 10183	100pF 5% 50V
2595	4822 122 10166	22nF 30% 16V
2596	4822 124 40184	1000µF 20% 10V
2597	4822 124 42218	470µF 20% 10V
2598	4822 122 10166	22nF 30% 16V
2599	4822 124 41584	100µF 20% 10V
2600	4822 122 10183	100pF 5% 50V
2601	4822 122 10183	100pF 5% 50V
2602	4822 124 41398	1µF 20% 63V
2603	4822 124 41398	1µF 20% 63V
2604	4822 124 40248	10µF 20% 63V
2605	4822 124 40248	10µF 20% 63V
2606	4822 122 10177	10nF 20% 25V
2607	4822 122 10177	10nF 20% 25V
2608	4822 126 11309	2.7nF 10% 50V
2609	4822 126 11309	2.7nF 10% 50V
2610	4822 122 10173	820pF 10% 50V
2611	4822 122 10173	820pF 10% 50V
2612	4822 126 12332	100pF 5% 50V
2613	4822 126 12332	100pF 5% 50V
2624	4822 122 10166	22nF 30% 16V
2625	4822 124 41584	100µF 20% 10V
2626	4822 124 40177	47µF 20% 10V

3251	4822 050 16802		6k8 1% 0.4W
3252	4822 050 16802		6k8 1% 0.4W
3255	4822 052 10228	⚠	2Ω2 5% 0.33W
3256	4822 052 10228	⚠	2Ω2 5% 0.33W
3257	4822 052 10228	⚠	2Ω2 5% 0.33W
3258	4822 052 10228	⚠	2Ω2 5% 0.33W
3265	4822 116 52207		1k2 5% 0.5W
3266	4822 116 52207		1k2 5% 0.5W
3271	4822 116 52217		270Ω 5% 0.5W
3272	4822 116 52217		270Ω 5% 0.5W
3273	4822 050 22208		2Ω2 1% 0.6W
3274	4822 050 22208		2Ω2 1% 0.6W
3290	4822 050 21001		100Ω 1% 0.6W
3295	4822 052 10129	⚠	12Ω 5% 0.33W
3296	4822 050 22202		2k2 1% 0.6W
3301	4822 050 24709		47Ω 1% 0.6W
3302	4822 050 13901		390Ω 1% 0.4W
3303	4822 050 11002		1k 1% 0.4W
3304	4822 050 11002		1k 1% 0.4W
3305	4822 050 21003		10k 1% 0.6W
3306	4822 050 16802		6k8 1% 0.4W
3307	4822 050 28202		8k2 1% 0.6W
3308	4822 116 52234		100k 5% 0.5W
3309	4822 116 52234		100k 5% 0.5W
3315	4822 116 52215		220Ω 5% 0.5W
3320	4822 050 24703		47k 1% 0.6W
3551	4822 050 28203		82k 1% 0.6W
3552	4822 050 28203		82k 1% 0.6W
3553	4822 050 11504		150k 1% 0.4W
3554	4822 050 11504		150k 1% 0.4W
3555	4822 050 16802		6k8 1% 0.4W
3556	4822 050 16802		6k8 1% 0.4W
3557	4822 050 11204		120k 1% 0.4W
3558	4822 050 11204		120k 1% 0.4W
3559	4822 116 52271		33k 5% 0.5W
3560	4822 116 52271		33k 5% 0.5W
3561	4822 116 52271		33k 5% 0.5W
3562	4822 116 52271		33k 5% 0.5W
3563	4822 116 52271		33k 5% 0.5W
3564	4822 116 52271		33k 5% 0.5W
3565	4822 116 52271		33k 5% 0.5W
3566	4822 116 52271		33k 5% 0.5W
3567	4822 050 22203		22k 1% 0.6W
3568	4822 050 22203		22k 1% 0.6W
3569	4822 050 22202		2k2 1% 0.6W
3570	4822 050 22202		2k2 1% 0.6W
3571	4822 050 22203		22k 1% 0.6W
3572	4822 050 22203		22k 1% 0.6W
3573	4822 050 23903		39k 1% 0.6W
3574	4822 050 23903		39k 1% 0.6W
3575	4822 050 15601		560Ω 1% 0.4W
3576	4822 050 15601		560Ω 1% 0.4W

3577	4822 050 24701	470Ω 1% 0.6W
3578	4822 050 24701	470Ω 1% 0.6W
3581	4822 116 52271	33k 5% 0.5W
3582	4822 116 52271	33k 5% 0.5W
3583	4822 050 24703	47k 1% 0.6W
3584	4822 050 24703	47k 1% 0.6W
3585	4822 050 13901	390Ω 1% 0.4W
3586	4822 050 13901	390Ω 1% 0.4W
3597	4822 050 24701	470Ω 1% 0.6W
3599	4822 050 21001	100Ω 1% 0.6W
3600	4822 050 13304	330k 1% 0.4W
3601	4822 050 13304	330k 1% 0.4W
3604	4822 050 15601	560Ω 1% 0.4W
3605	4822 050 15601	560Ω 1% 0.4W
3606	4822 050 13304	330k 1% 0.4W
3607	4822 050 13304	330k 1% 0.4W
3608	4822 050 22703	27k 1% 0.6W
3609	4822 050 22703	27k 1% 0.6W
3610	4822 050 13901	390Ω 1% 0.4W
3611	4822 050 13901	390Ω 1% 0.4W
3612	4822 050 24701	470Ω 1% 0.6W
3613	4822 050 24701	470Ω 1% 0.6W
3622	4822 050 11002	1k 1% 0.4W
3623	4822 050 11002	1k 1% 0.4W
3624	4822 050 24709	47Ω 1% 0.6W



5250	4822 157 53447	Bead Inductor
5550	4822 157 53447	Bead Inductor
5551	4822 157 53447	Bead Inductor

6292	4822 130 31253		BZX79-C2V4
6295	4822 130 30621		1N4148
6301	4822 130 30621		1N4148
6302	4822 130 34195		BZX79-C13
6303	4822 130 80305	⚠	KBU4DL-7003
6551	4822 130 30621		1N4148
6552	4822 130 30621		1N4148
6553	4822 130 30621		1N4148
6554	4822 130 30621		1N4148
6555	4822 130 30621		1N4148
6556	4822 130 30621		1N4148
6557	4822 130 30621		1N4148
6558	4822 130 30621		1N4148
6559	4822 130 30621		1N4148
6560	4822 130 30621		1N4148
6561	4822 130 30621		1N4148
6562	4822 130 30621		1N4148

6563	4822 130 30621	1N4148
6564	4822 130 30621	1N4148
6565	4822 130 30621	1N4148
6566	4822 130 30621	1N4148

7253	4822 209 73356 ⚠	AN7161N(FP)
7254	4822 209 73356 ⚠	AN7161N(FP)
7256	4822 130 44196	TBC548C
7301	4822 209 80591 ⚠	LM317T
7303	4822 209 80591 ⚠	LM317T
7304	4822 130 40937	TBC548B
7305	4822 130 40937	TBC548B
7550	4822 209 83274	NJM4560D
7602	4822 209 83274	NJM4560D

Note : Only the mentioned parts are normal service parts.

MISCELLANEOUS ELECTRICAL & ACCESSORIES PARTSLIST

	MISCELLANEOUS	
5300	4822 146 30862 ⚠	Mains Transformer
	ACCESSORIES	
	4822 445 10295	Loudspeaker Box
	4822 736 20583	Instruction For Use
	4822 321 10249 ⚠	Mains Cord

Note : Only the mentioned parts are normal service parts.

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified, be used.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat bij reparatie in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde, worden toegepast.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utiliséés les piéces de rechange identiques à celles spécifiées.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Original zustand des Geräts darf nicht verändert werden; für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati i pezzi di ricambio identici a quelli specificati.

"After servicing and before returning set to customer perform a leakage current measurement test from all exposed metal parts to earth ground to assure no shock hazard exist. The leakage current must not exceed 0.5mA."

Service Information

1993 - 04 - 26

AS9402/22R/42
AS9404/42

A93 - 603

Product Service Group CE Audio

During production many modifications have been introduced making it necessary to prepare an updated versions of the existing service documentations. This revised service documentation which carries old and new drawings will replace the following service manuals:

AS9402/22R	4822 725 23125
AS9402/42	4822 725 22945
AS9404/42	4822 725 22943

The changes/modifications incorporated into the new drawings are:

Tape panel:

Item no.	Old	New	Remarks
2707/2757	10pF	-	Delete
2712/2762	22nF	4.7nF	
2713	22µF	47µF	
2722/2772	0.47µF	1µF	
2775	470µF	1000µF	
2783	33nF	12nF	
2785	12nF	15nF	
2786	220pF	100pF	
2789	-	47µF	Add
2790	-	47µF	Add
3715/3765	47kΩ	-	Delete
3719/3769	47kΩ	22kΩ	
3737	-	470Ω	Add
3742/3792	10kΩ	1kΩ	
3746	680Ω	470Ω	
3749	-	4.7kΩ	Add
3778	22Ω	18Ω	
3779	2.2MΩ	680kΩ	
3783	-	220kΩ	Add
3796	-	22kΩ	Add
3797	3.9kΩ	1kΩ	
3798	2.2kΩ	820Ω	
6706	-	1N4148	Add
6711	1N4148	-	Delete
6712	-	1N4148	Add
7706/7756	BC548B	BC338-40	
7707/7757	BC548B	BC338-40	

Tuner board:

Addition of Service layer

Feature board:

Item no.	Old	New	Remarks
2405	-	4.7µF	Add
2408	-	47µF	Add
2460	47µF	100µF	
2553	470pF	-	Delete
2554	470pF	-	Delete
2555	1nF	-	Delete
2556	1nF	-	Delete
3404	-	330Ω	Add
3405	-	39k	Add
3406	-	5k6	Add
3407	-	39k	Add
3408	-	4k7	Add
3420	100k	100k	Pos change
3440	10k	4k7	
3444	10k	5k6	
3446	10k	15k	
3447	10k	4k7	
3451	47k	560Ω	
3452	560Ω	390Ω	
3453	10k	33k	Pos change
3454	82k	10k	
3459	-	10k	Add
3467	1k	470Ω	
3489	-	1k	Add
3490	-	1k	Add
3525	-	47Ω	Add
3691	560Ω	390Ω	
6406	-	1N4148	Add
6407	-	1N4148	Add
6408	-	1N4148	Add
6410	-	1N4148	Add
6414	-	1N4148	Add
6470	1N4148	BZX79-C12	
7405	-	TBC558B	Add
7407	-	TBC548B	Add
7450	TBC548B	TBC558B	

Power and selector board:

Item no.	Old	New	Remarks
2596	-	100µF	Add
2595	-	22nF	Add
2571	-	22nF	Add
2572	-	22nF	Add
2573	-	22nF	Add
2574	-	22nF	Add
2375	470pF	15nF	
2376	470pF	15nF	
2291	-	100pF	Add
2292	-	100pF	Add
6292	BZX79C3V3	BZX79-C2V4	
5550	-	Bead ind.	Add
5551	-	Bead ind.	Add
5250	-	Bead ind.	Add

Exploded view:

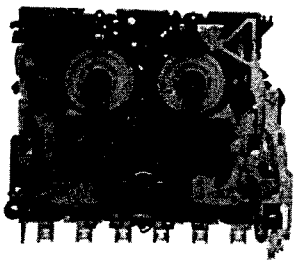
Pos. no.	Old	New	Remarks
AS9402			
423	4822 492 63051	4822 404 21082	Pos. change
424	4822 255 41035	4822 492 03051	Pos. change
425	-	4822 255 40135	Pos. change
440	-	4822 417 10631	Pos. change
441	4822 417 10631	4822 433 92643	Pos. change
442	4822 466 92643	4822 404 21216	Add
AS9404			
401	4822 529 10251	Not Applicable	Pos. change
415	-	4822 691 10344	Pos. change/Improvement
423	4822 492 63051	4822 404 21082	Pos. change/Add
424	4822 255 41035	4822 492 63051	Pos. change
425	-	4822 255 41035	Pos. change
426	4822 492 70732	4822 529 10278	Pos. change/Improvement
427	4822 492 70426	4822 492 42595	Pos. change/Improvement
428	4822 403 30772	4822 492 70426	Pos. change
429	4822 404 21073	4822 403 30772	Pos. change
430	-	4822 404 21073	Pos. chnage
442	-	4822 404 21216	Pos. change
443	-	4822 462 41535	Pos. change

4089

Tape transport RN/RR
RDN/RDR

General documentation

Service
Service
Service



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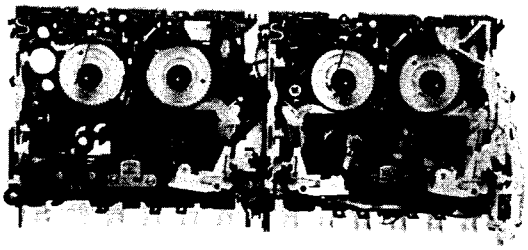

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Service Manual

(GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Belts
- Capstan
- Pressure roller

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Snaren
- Toonas
- Drukrol

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Corroies
- Cabestan
- Galet presseur

(D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Antriebsriemen
- Tonachse
- Andruckrolle

(I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

- Testina di cancellazione
- Testina di registrazione/riproduzione
- Cinghie
- Capstan
- Rullo preminastro

Documentation Technique Service Documentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Serviço

"Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne".

Subject to modification

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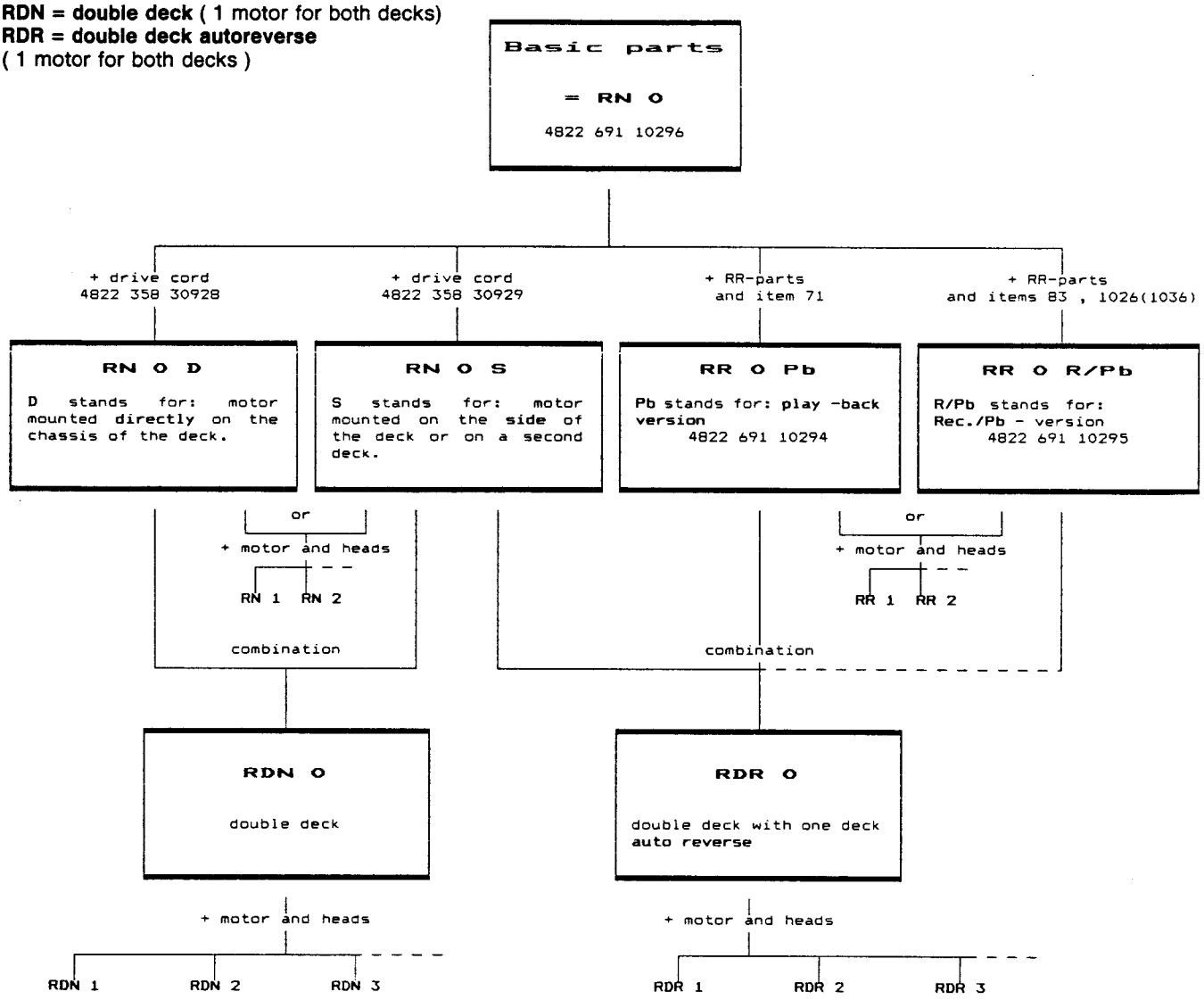
Service Consumer Electronics

4089

RN / RR – system:

RN = single deck
RR = single deck autoreverse -

RDN = double deck (1 motor for both decks)
RDR = double deck autoreverse
(1 motor for both decks)



(GB)

Version 0 stands for deck without motor and heads.The various motors and heads give the various versions of tapetransports.
For codenumbers of motors and heads see separate manual of the corresponding tapetransport – version.

(NL)

Versie 0 staat voor een loopwerk zonder motor en magneetkoppen. Der vershillende motors en koppen bepalen der verschillende loopwerkversies.
De codenummers van de motors en koppen zijn vermeld in de documentatie van de betreffende loopwerkversie.

(F)

La version 0 correspond á une mécanique sans moteur ni têtes. Ce sont eu fait les differents moteurs et têtes qui sont de terminauts pour le n° que porte une ceztaine version d'une mécanique.
Veuillez vous reporter á la Documentation traitant d'un version précise en matiére de codes des mouteurs et des têtes.

(D)

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.
Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

(I)

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il número di codice di una certa versione di un meccanismo.
Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

SERVICE HINTS

(GB) DISMANTLING

- **Removal of the pressure roller 40+41 (76+73)**
  Press locklug of headsupport aside and pull up lever 40 (73).
- **Removal of take up clutch 402**
  Press locklugs apart (e.g.with a small pair of tweezers) and pull up 402.
- **Head support**
  Cannot be removed because suppression spring 39 has to be assembled with a special tool which is not available in the workshops.

ADJUSTMENTS and CHECKS

- Check of **pressure roller force** against capstan:
  The force of the pressure roller against the capstan should be 240 ± 30 p.
  Measuring method:
  Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan – see fig.2
  Read force just in that moment when tape travel stops.
  This pressure cannot be adjusted!
- **Take up clutch 402**
  The torque can be measured with friction test cassette 4822 395 30054 in play mode.
  Requirement:
  take up torque: 40 – 65 pcm
  (permissible variation 5 pcm)
  supplying reel: 2 – 4 pcm
- **FF/REW torque**
  Use friction testcassette 4822 395 30054
  FF– or Rew – mode
  Stop supplying reel by hand and read friction force – requirement: 55 – 90 pcm
- Check of **tape travel and capstan adjustment:**
  Use mirror cassette 4822 395 30058 in play mode.
  If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.
  The tape should travel straight and smoothly between the tapeguides and along the capstan.Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.

  Attention: In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb – head ---- repeat if necessary.

  For **adjustment of the azimuth** of the Rec./Pb – head and the **tape speed** refer to the concerning service manual of the set.

(NL) SERVICE-HINTS

DEMONTAGE

- **Verwijderen van aandrukrol 40+41 (76+73)**
  Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- **Verwijderen van opwikkelkoppeling 402**
  Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.
- **Kopsteun**
  De kopsteun kan niet worden verwijderd omdat voor de montage van drukveer 39 een speciaal stuk gereedschap is vereist dat in een werkplaats niet voorhanden is.

AFSTELLINGEN en CONTROLES

- Controleren van de kracht **van de aandrukrol** tegen de kaapstander:
  De druk van de aandrukrol tegen de kaapstander moet zijn 240 ± 30p.
  Meetmethode:
  Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander – zie afbeelding 2.
  Lees de waarde af precies op het moment dat de band stopt.
  Deze druk kan niet worden bijgeregeld.
- **Opwikkelkoppeling 402**
  Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.
  Eis:
  opwikkelkoppel: 40 – 65 pcm
  (toegestane afwijking 5 pcm)
  afwikkelspoel: 2 – 4 pcm
- **koppel bij vooruit–/terugspoelen**
  Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.
  Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af – eis: 55 – 90 pcm.
- Controleren van **bandtransport en kaapstander–instelling:**
  Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.
  Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.
  De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.

  Aandacht: In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname–/weergavekop het bandtransport in beide richtingen te controleren.
  Indien nodig de instelling herhalen.
  Voor **de azimuthinstelling** van de weergave–/opnamekop en de **bandsnelheid** gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

(F) CONSEILS D'ENTRETIEN

DEMONTAGE

Démontage du galet presseur 40+41 (76+73) Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

Démontage de la griffe enrouleuse 402
Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

Support de tête de lecture
Ne peut être retiré car le ressort de suppression 39 doit être monté au moyen d'un outil spécial non disponible dans les ateliers.

REGLAGES ET VERIFICATIONS

- Vérification de **la pression des galets presseurs** contre le cabestan :
  La pression exercée contre le cabestan doit être de 240 ± 30 p.
  Méthode de mesure :
  En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défiler. Cette pression ne peut pas être réglée !

- **Griffe enrouleuse 402**
  Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.
  Condition requise :
  Moment de torsion de l'enrouleuse : 40–65 MIC
  Variation autorisée : 5 MIC
  Bobine débitrice : 2 – 4 MIC

- **Moment de torsion FF/REW (bobinage rapide/rebobinage)**
  Utilisez la cassette de test à friction 4822 395 30054
  Mode bobinage rapide ou rebobinage.
  Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

- Contrôle du **défilement de bande et du réglage du cabestan** :
  Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant.
  La bande doit défiler en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven– tionnelle.

  Attention :
  Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement.
  Répétez cette opération si nécessaire.

  Pour **le réglage de l'azimut** de la tête de lecture/enregistrement et **la vitesse de bande**, reportez–vous au manuel d'entretien correspondant.

(D) AUSBAU

- **Andruckrolle 40+41 (76+73) entfernen:**
  Sperrzunge der Kopfträgerplatte zur Seite drücken und Hebel 40 (73) hochziehen.

- **Aufwickelkupplung 402 entfernen:**
  Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

- **Kopfträgerplatte**
  Kann nicht ausgebaut werden,da Druckfeder 39 nur mit einem Spezialwerkzeug montiert werden kann.

EINSTELLUNGEN und KONTROLLEN

- Kontrolle des **Anpreßrollendruckes**
  Der Druck der Anpreßrolle 41 (76) an die Tonachse soll 240 ± 30 p betragen.
  Meßmethode: Stellung "play" mit beliebiger Kassette.Anpreßrolle mit einer Federwaage (4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdrücken. Lesen Sie die Kraft in dem Moment ab,wenn der Bandtransport stoppt.
  Dieser Druck kann nicht eingestellt werden!

- **Aufwickelrutschkupplung 402**
  Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.
  Anforderung:
  Aufwickelmoment: 40 – 65 pcm
  (zulässige Schwankung 5 pcm)
  Gegenzug: 2 – 4 pcm

- **FF / REW – Moment**
  Stellung "FF" bzw. "REW"
  Meßkassette 4822 395 30054 verwenden.
  Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.
  Anforderung: 50 – 90 pcm

- Kontrolle des **Bandlaufs** und der **Tonwelleneinstellung:**
  Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".
  Wenn sich das Band an der Tonwelle nach oben oder unten bewegt,muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden.
  Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen.Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

  Achtung: Bei Reverse – Laufwerken ist es wichtig,nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren ------ falls notwendig, wiederholen.
  Für Einstellung des **Azimuths** des REC/Pb –Kopfes und der **Bandgeschwindigkeit** siehe Servicedokumentation des betreffenden Gerätes.

(I) CONSIGLI DI SERVIZIO ASSISTENZA

SMONTAGGIO

- **Smontaggio del rullino pressanastro 50+41 (76+73)**

  Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).

- **Smontaggio dell'accoppiamento di avvolgimento 402**

  Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

- **Supporto delle testine**

  Non è possibile smontare il supporto delle testine dato che lo smontaggio della molla di spinta 39 richiede un attrezzo speciale che non è disponibile in un'officina.

REGISTRAZIONI e CONTROLLI

- Controllo della **forza del rullino pressanastro** contro il rullino trainonastro:
  La forza del rullino pressanastro contro il rullino trainonastro deve essere di 240 ± 30 p.

  Metodo di misurazione:
  Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).
  Leggere il valore proprio al momento che il nastro si arresta.
  Non è possibile correggere questa pressione!

- **Accoppiamento di avvolgimento 402**

  La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.
  Valori prescritti:
  Coppia di avvolgimento: 40–65 pcm.
  (tolleranza: 5 pcm)
  Bobina di svolgimento : 2–4 pcm.

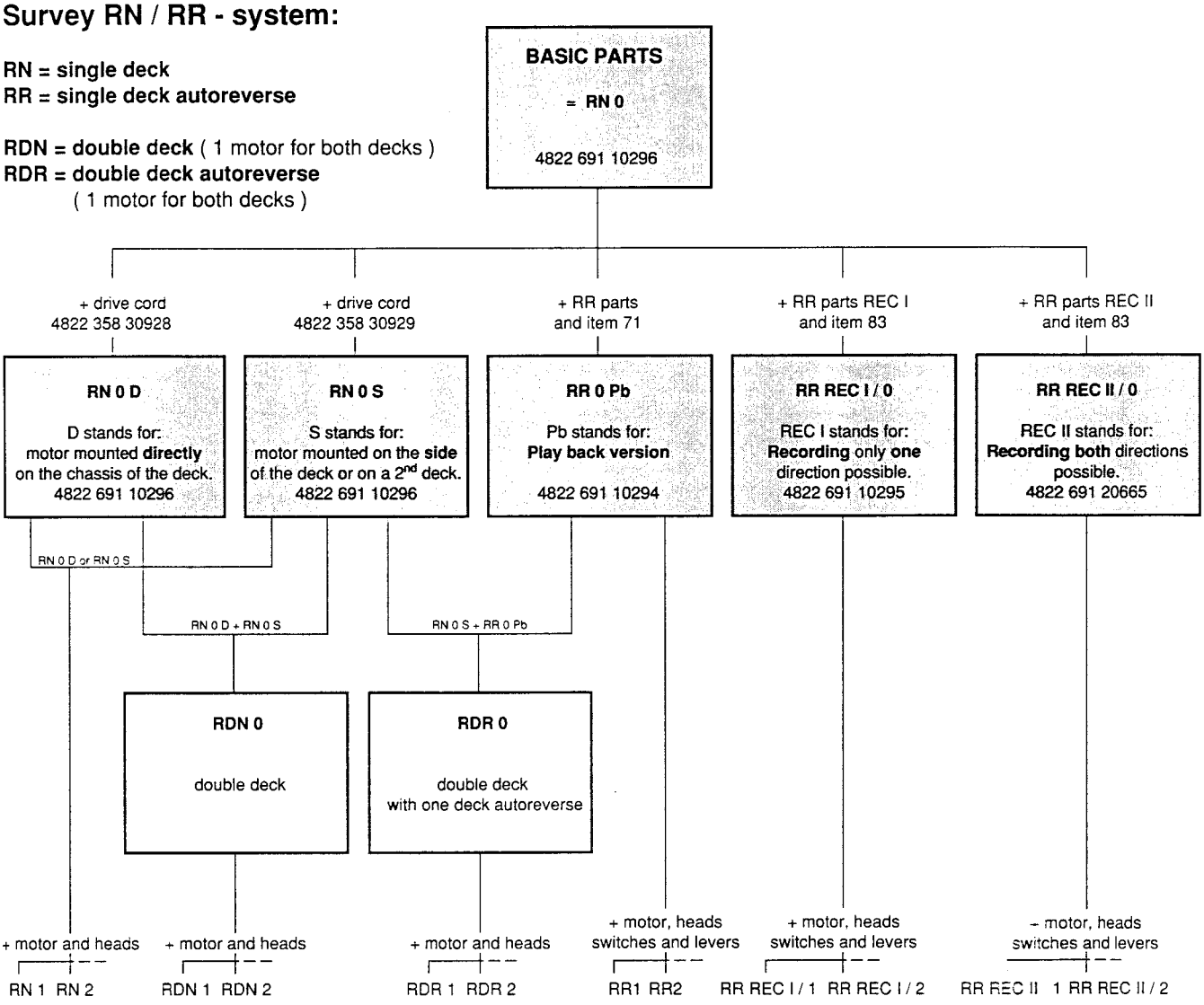
- **Coppia di avvolgimento/riavvolgimento**

  Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.
  Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.
  Valore prescritto: 55–90 pcm.

Survey RN / RR - system:

RN = single deck
RR = single deck autoreverse

RDN = double deck (1 motor for both decks)
RDR = double deck autoreverse
(1 motor for both decks)


BASIC PARTS
= RN 0
4822 691 10296
+ drive cord 4822 358 30928
+ drive cord 4822 358 30929
+ RR parts and item 71
+ RR parts REC I and item 83
+ RR parts REC II and item 83
RN 0 D
D stands for: motor mounted directly on the chassis of the deck. 4822 691 10296
RN 0 S
S stands for: motor mounted on the side of the deck or on a 2nd deck. 4822 691 10296
RR 0 Pb
Pb stands for: Play back version
4822 691 10294
RR REC I / 0
REC I stands for: Recording only one direction possible. 4822 691 10295
RR REC II / 0
REC II stands for: Recording both directions possible. 4822 691 20665
RN 0 D or RN 0 S
RN 0 D + RN 0 S
RN 0 S + RR 0 Pb
RDN 0
double deck
RDR 0
double deck with one deck autoreverse
+ motor and heads
RN 1 RN 2
+ motor and heads
RDN 1 RDN 2
+ motor and heads
RDR 1 RDR 2
+ motor, heads switches and levers
RR1 RR2
+ motor, heads switches and levers
RR REC I / 1 RR REC I / 2
+ motor, heads switches and levers
RR REC II 1 RR REC II / 2

☐ described in this general manual
for the various types of tape transports see separate manuals

(GB)

Version 0 stands for deck without motor and heads.The various motors and heads give the various versions of tapetransports.
For codenumbers of motors and heads see separate manual of the corresponding tapetransport – version.

(NL)

Versie 0 staat voor een loopwerk zonder motor en magneetkoppen. Der vershillende motors en koppen bepalen der verschillende loopwerkversies.
De codenummers van de motors en koppen zijn vermeld in de documentatie van de betreffende loopwerkversie.

(F)

La version 0 correspond á une mécanique sans moteur ni têtes. Ce sont eu fait les differents moteurs et têtes qui sont de terminauts pour le n° que porte une ceztaine version d'une mécanique.
Veuillez vous reporter á la Documentation traitant d'un version précise en matiére de codes des mouteurs et des têtes.

(D)

Version 0 steht für : Laufwerk ohne Motor und Köpfe. Die verschiedenen Motoren und Köpfe bestimmen die verschiedenen Versionen der Laufwerke.
Die Codenummern der Motoren und Köpfe entnehmen Sie bitte der Dokumentation der betreffenden Version.

(I)

La versione 0 corrisponde ad un meccanismo privo di motore e testine. Infatti sono i motori e le testine che determinano il número di codice di una certa versione di un meccanismo.
Per quanto concerne i codici per motori e testine, riferirsi alla Documentazione de Servizio della versione precisa di cui si tratta.

SERVICE HINTS

(GB) DISMANTLING

- **Removal of the pressure roller 40+41 (76+73)**
  Press locklug of headsupport aside and pull up lever 40 (73).
- **Removal of take up clutch 402**
  Press locklugs apart (e.g.with a small pair of tweezers) and pull up 402.

ADJUSTMENTS and CHECKS

- Check of **pressure roller force** against capstan:
  The force of the pressure roller against the capstan should be 240 ± 30 p.
  Measuring method:
  Pb mode with arbitrary cassette. Push the pressure roller with a spring pressure gauge (4822 395 80028) away from the capstan – see fig.2
  Read force just in that moment when tape travel stops.
  This pressure cannot be adjusted!
- **Take up clutch 402**
  The torque can be measured with friction test cassette 4822 395 30054 in play mode.
  Requirement:
  take up torque: 40 – 65 pcm
  (permissible variation 5 pcm)
  supplying reel: 2 – 4 pcm
- **FF/REW torque**
  Use friction testcassette 4822 395 30054
  FF– or Rew – mode
  Stop supplying reel by hand and read friction force – requirement: 55 – 90 pcm
- Check of **tape travel and capstan adjustment:**
  Use mirror cassette 4822 395 30058 in play mode.
  If the tape moves up or down at the capstan the capstan has to be adjusted perpendicularly with the flywheel bearing 5.
  The tape should travel straight and smoothly between the tapeguides and along the capstan.Small deviations in this pattern are permissible since their effect is negligible with a normal cassette.

  Attention: In case of a reverse deck it is important to check tape travel in both directions after adjustment of the azimuth of the Rec./Pb – head ---- repeat if necessary.

  For **adjustment of the azimuth** of the Rec./Pb – head and the **tape speed** refer to the concerning service manual of the set.

(NL) SERVICE-HINTS

DEMONTAGE

- **Verwijderen van aandrukrol 40+41 (76+73)**
  Duw de vergrendellip van de kopsteun opzij en trek hefboom 40 (73) omhoog.
- **Verwijderen van opwikkelkoppeling 402**
  Duw de vergrendellippen opzij (bijvoorbeeld met een klein pincet) en trek de koppeling 402 omhoog.

AFSTELLINGEN en CONTROLES

- Controleren van de kracht **van de aandrukrol** tegen de kaapstander:
  De druk van de aandrukrol tegen de kaapstander moet zijn 240 ± 30p.
  Meetmethode:
  Plaats een willekeurige cassette en druk de weergavetoets in. Trek de aandrukrol met een veerdrukmeter (4822 395 80028) weg van de kaapstander – zie afbeelding 2.
  Lees de waarde af precies op het moment dat de band stopt.
  Deze druk kan niet worden bijgeregeld.
- **Opwikkelkoppeling 402**
  Het koppel kan worden gemeten met behulp van de frictietestcassette 4822 395 30054 in de weergavestand.
  Eis:
  opwikkelkoppel: 40 – 65 pcm
  (toegestane afwijking 5 pcm)
  afwikkelspoel: 2 – 4 pcm
- **koppel bij vooruit–/terugspoelen**
  Gebruik frictietestcassette 4822 395 30054 in de stand vooruitspoelen of terugspoelen.
  Houd de afwikkelspoel met de hand stil en lees de wrijvingskracht af – eis: 55 – 90 pcm.
- Controleren van **bandtransport en kaapstander–instelling:**
  Gebruik spiegelcassette 4822 395 30058 in de stand weergeven.
  Als de band bij de kaapstander op en neer gaat, moet de kaapstander verticaal worden bijgesteld met behulp van vliegwiellager 5.
  De band moet recht en soepel tussen de bandgeleiders langs de kaapstander lopen. Kleine afwijkingen in dit patroon zijn toelaatbaar omdat het effect ervan bij een normale cassette te verwaarlozen is.

  Aandacht: In geval van een deck dat zowel kan opnemen als weergeven, is het belangrijk om na de azimuthinstelling van de opname–/weergavekop het bandtransport in beide richtingen te controleren.
  Indien nodig de instelling herhalen.
  Voor **de azimuthinstelling** van de weergave–/opnamekop en de **bandsnelheid** gelieve u de servicehandleiding van het betreffende apparaat te raadplegen.

(F) CONSEILS D'ENTRETIEN

DEMONTAGE

Démontage du galet presseur 40+41 (76+73) Poussez sur le côté la patte de serrage du support de la tête de lecture et remontez le levier 40 (73).

Démontage de la griffe enrouleuse 402
Poussez à l'écart les pattes de serrage (par exemple avec des pincettes) et tirez la griffe 402 vers le haut.

dans les ateliers.

REGLAGES ET VERIFICATIONS

- Vérification de **la pression des galets presseurs** contre le cabestan :
  La pression exercée contre le cabestan doit être de 240 ± 30 p.
  Méthode de mesure :
  En mode lecture avec une cassette arbitraire.

Eloignez du cabestan le galet presseur avec un manomètre à ressorts (4822 395 80028)– Fig.2 Lisez la pression au moment où la bande cesse de défiler. Cette pression ne peut pas être réglée !

- **Griffe enrouleuse 402**
  Le moment de torsion peut être mesuré à l'aide de la cassette de test à friction 4822 395 30054 en mode lecture.
  Condition requise :
  Moment de torsion de l'enrouleuse : 40–65 MIC
  Variation autorisée : 5 MIC
  Bobine débitrice : 2 – 4 MIC

- **Moment de torsion FF/REW (bobinage rapide/rebobinage)**
  Utilisez la cassette de test à friction 4822 395 30054
  Mode bobinage rapide ou rebobinage.
  Arrêtez la bobine débitrice à la main et lisez la force de friction: 55 – 90 MIC exigés

- Contrôle du **défilement de bande et du réglage du cabestan** :
  Utilisez la cassette à miroir 4822 395 30058 en mode lecture Si la bande se déplace vers le haut ou vers le bas du cabestan, vous devez ajuster le cabestan perpendiculairement avec le palier 5 du volant.
  La bande doit défiler en ligne droite et doucement entre les guides de bande. De faibles déviations de ce modèle sont autorisées car leur effet est négligeable avec une cassette conven– tionnelle.

  Attention :
  Dans le cas d'une platine cassette à inversion de défilement, il est très important de vérifier le défilement de bande dans les deux sens après le réglage de l'azimut de la tête de lecture/enregistrement.
  Répétez cette opération si nécessaire.

  Pour **le réglage de l'azimut** de la tête de lecture/enregistrement et **la vitesse de bande**, reportez–vous au manuel d'entretien correspondant.

(D) AUSBAU

- **Andruckrolle 40+41 (76+73) entfernen:**
  Sperrzunge der Kopfträgerplatte zur Seite drücken und Hebel 40 (73) hochziehen.

- **Aufwickelkupplung 402 entfernen:**
  Rasthaken auseinanderdrücken (z.B. mit spitzer Pinzette) und gleichzeitig 402 hochziehen.

EINSTELLUNGEN und KONTROLLEN

- Kontrolle des **Anpreßrollendruckes**
  Der Druck der Anpreßrolle 41 (76) an die Tonachse soll 240 ± 30 p betragen.
  Meßmethode: Stellung "play" mit beliebiger Kassette.Anpreßrolle mit einer Federwaage (4822 395 80028) – Ansetzpunkt siehe Fig. 2 – von der Tonachse wegdrücken. Lesen Sie die Kraft in dem Moment ab,wenn der Bandtransport stoppt.
  Dieser Druck kann nicht eingestellt werden!

- **Aufwickelrutschkupplung 402**
  Das Aufwickelmoment wird mit der Meßkassette 4822 395 30054 in Stellung "play" gemessen.
  Anforderung:
  Aufwickelmoment: 40 – 65 pcm
  (zulässige Schwankung 5 pcm)
  Gegenzug: 2 – 4 pcm

- **FF / REW – Moment**
  Stellung "FF" bzw. "REW"
  Meßkassette 4822 395 30054 verwenden.
  Jeweiligen Abwickelteller mit der Hand blockieren und Moment ablesen.
  Anforderung: 50 – 90 pcm

- Kontrolle des **Bandlaufs** und der **Tonwelleneinstellung:**
  Verwenden Sie Spiegelkassette 4822 395 30058 in Stellung "play".
  Wenn sich das Band an der Tonwelle nach oben oder unten bewegt,muß die Tonwelle mit dem Exzenterlager 5 senkrecht gestellt werden.
  Das Band soll gerade und genau fluchtend zwischen den Bandführungen der Köpfe und an der Tonwelle entlang laufen.Geringe Abweichungen in diesem Bild sind zulässig, da sie bei einer normalen Kassette nicht beeinträchtigend wirken.

  Achtung: Bei Reverse – Laufwerken ist es wichtig,nach Einstellung des Azimuths den Bandlauf in beiden Richtungen zu kontrollieren ------ falls notwendig, wiederholen.
  Für Einstellung des **Azimuths** des REC/Pb –Kopfes und der **Bandgeschwindigkeit** siehe Servicedokumentation des betreffenden Gerätes.

(I) CONSIGLI DI SERVIZIO ASSISTENZA

SMONTAGGIO

- **Smontaggio del rullino pressanastro 50+41 (76+73)**

  Spingere la linguetta di bloccaggio del supporto delle testine lateralmente e tirare in alto la leva 40 (73).

- **Smontaggio dell'accoppiamento di avvolgimento 402**

  Spingere le linguette di bloccaggio lateralmente (p.e. con una piccola pinza) e tirare in alto l'accoppiamento 402.

REGISTRAZIONI e CONTROLLI

- Controllo della **forza del rullino pressanastro** contro il rullino trainonastro:
  La forza del rullino pressanastro contro il rullino trainonastro deve essere di 240 ± 30 p.

  Metodo di misurazione:
  Inserire una qualsiasi cassetta e premere il tasto di riproduzione. Allontanare il rullino pressanastro con un misuratore della pressione elicoidale (4822 395 80028) dal rullino trainonastro (fig. 2).
  Leggere il valore proprio al momento che il nastro si arresta.
  Non è possibile correggere questa pressione!

- **Accoppiamento di avvolgimento 402**

  La coppia può essere misurata con l'aiuto della cassetta di controllo della frizione 4822 395 30054 nel modo di riproduzione.
  Valori prescritti:
  Coppia di avvolgimento: 40–65 pcm.
  (tolleranza: 5 pcm)
  Bobina di svolgimento : 2–4 pcm.

- **Coppia di avvolgimento/riavvolgimento**

  Servirsi della cassetta di controllo della frizione 4822 395 30054 nel modo di avvolgimento o riavvolgimento.
  Bloccare con la mano la rotazione della bobina di svolgimento e leggere la forza di frizione.
  Valore prescritto: 55–90 pcm.

- Controllo della regolazione del **trasporto del nastro e** del rullino trainonastro

  Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.
  Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.
  Il nastro deve passare ben diritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

  Attenzione: in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.
  Per la **registrazione dell'azimut** della testina di registrazione/riproduzione e la **velocità di trasporto del nastro**, consultare il manuale di servizio assistenza dell'apparecchio in questione.

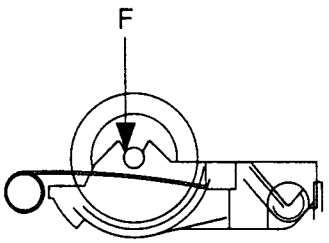
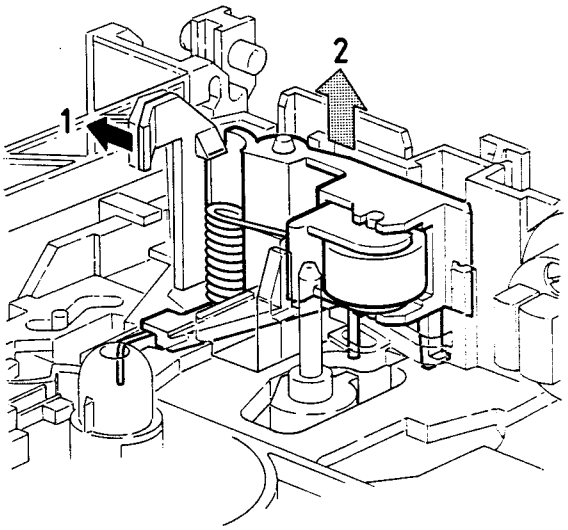


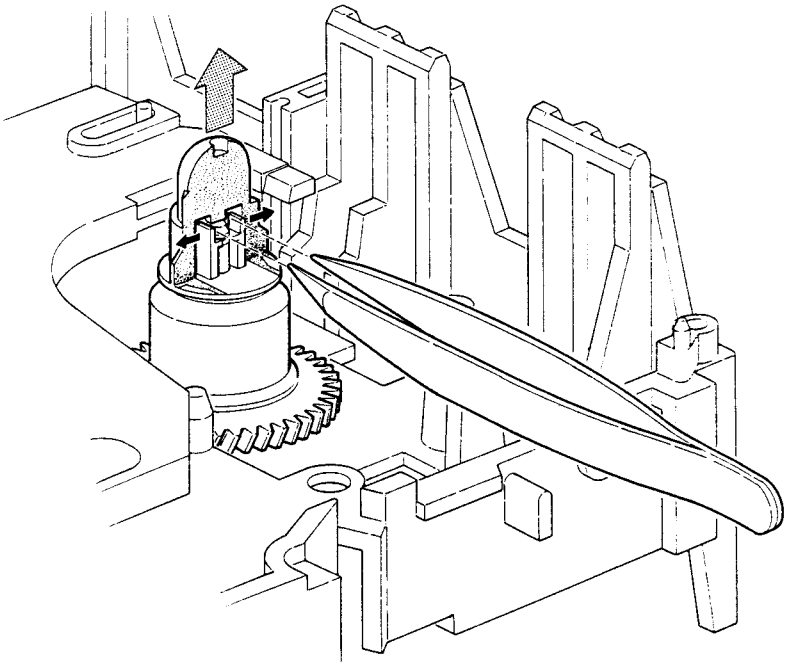
FIG 2

MDA.00429
T07/646

REMOVAL OF PINCH ROLLER



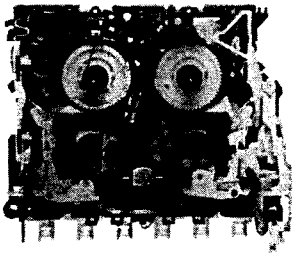
REMOVAL OF CARRIER (9), (20)



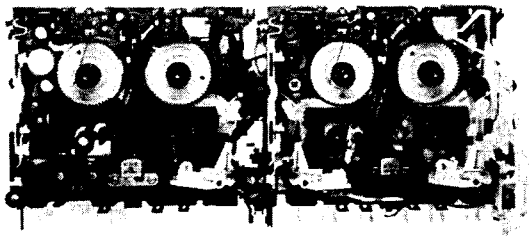
Tape transport RN/RR
RDN/RDR

General documentation

Service
Service
Service



44 993 A11



44 990 A11

Service Manual

(GB) MAINTENANCE

It is recommended to clean the recorder after approx. 500 hours of operation.

To be cleaned with alcohol or spirit

- Erase head
- Recording/playback head
- Capstan
- Pressure roller

(NL) ONDERHOUD

Aanbevolen wordt het apparaat na ca. 500 bedrijfsuren schoon te maken

Schoonmaken met alcohol of spiritus:

- Wiskop
- Opneem-/weergeefkop
- Toonas
- Drukrol

(F) ENTRETIEN

L'appareil devra être nettoyé après env. 500 heures de marche aux points les plus importants.

Nettoyer les éléments suivants à l'alcool ou à l'alcool à brûler:

- Tête effacement
- Tête enregistrement/reproduction
- Cabestan
- Galet presseur

(D) WARTUNG

Es empfiehlt sich, das Gerät nach ca. 500 Betriebsstunden zu reinigen

Reinigen mit Alkohol oder Spiritus:

- Löschkopf
- Aufnahme/Wiedergabe-Kopf
- Tonachse
- Andruckrolle

(I) MANUTENZIONE

E consigliabile pulire l'apparecchio dopo circa 500 ore di funzionamento ai punti principali.

Pulire con alcool

- Testina di cancellazione
- Testina di registrazione/riproduzione
- Capstan
- Rullo preminastro

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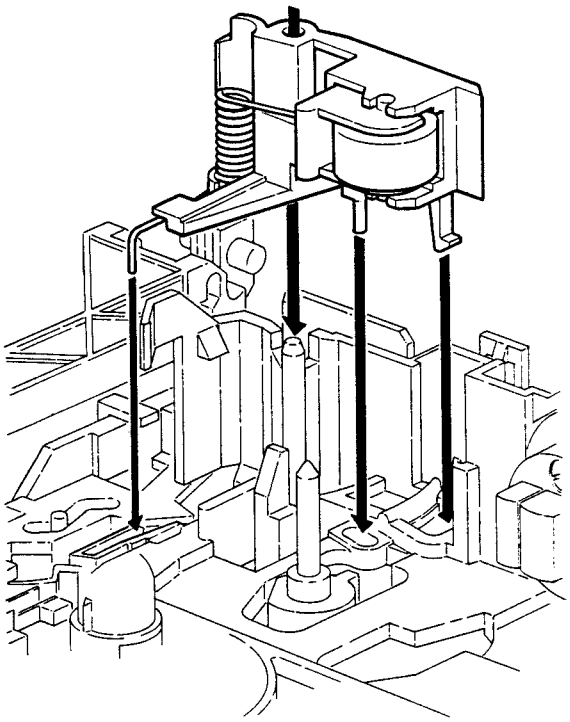
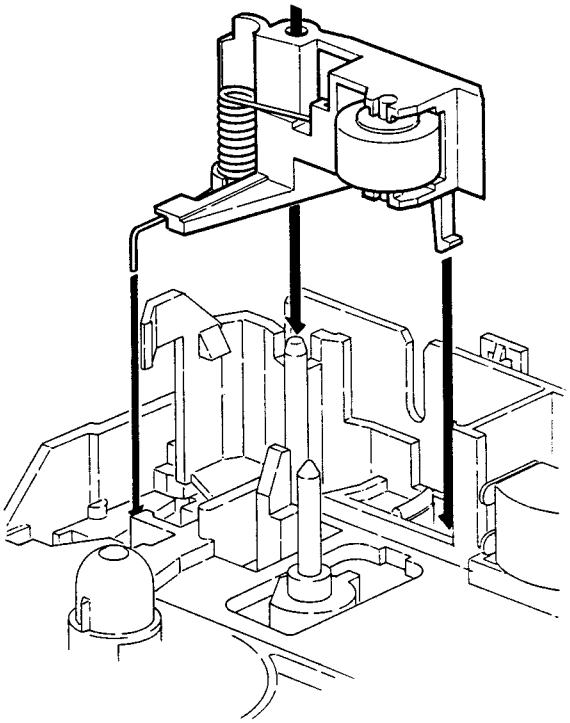
MOUNTING OF PINCH ROLLER

for autoreverse decks

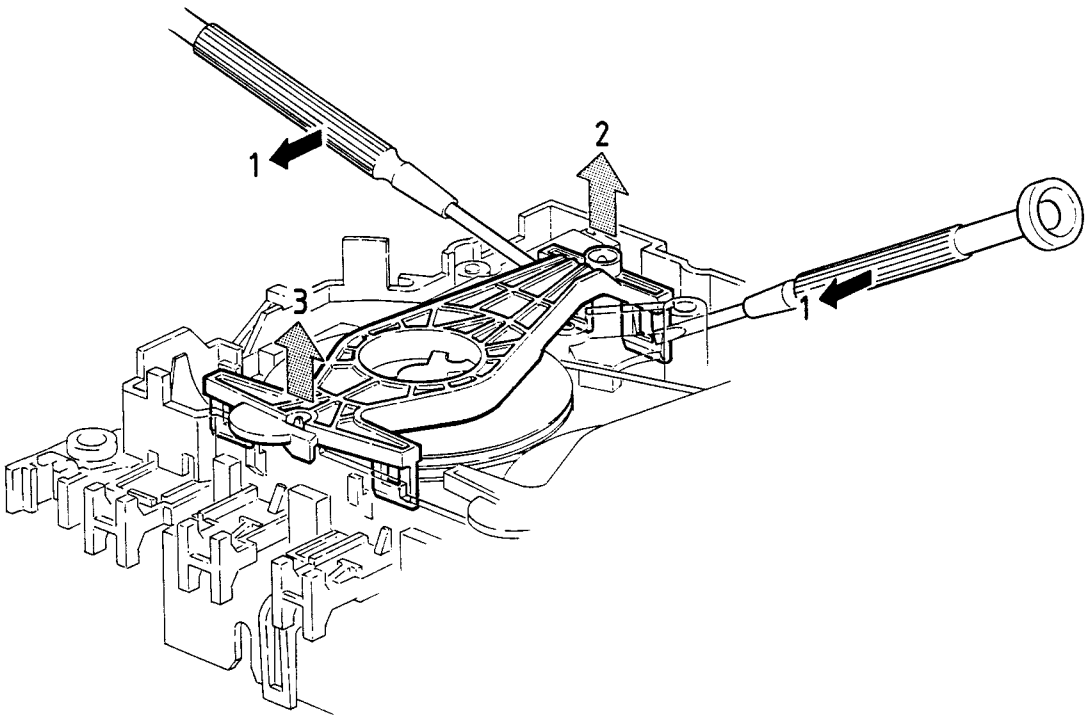


for single direction decks



REMOVAL OF BEARING PLATE ⑦⑥⑦

Begin rearwards as indicated



SUMMARY OF SERVICE CODE NUMBERS

RN - TAPE TRANSPORTS

	RN 1	*RN 2*	*RN 3*	*RN 4*	*RN 5*	*RN 6*	*RN 7*			
Motor MMI-6H2LWKR 4822 361 21323	x	x		x		x	x			
Motor MMI-6H2LWDR 4822 361 21298										
Motor MMI-6H9LWDR 4822 361 21285										
Motor MMI-6S9LR 4822 361 21425			x							
Motor MMI-6S9LRK 4822 361 21446					x					
Head erase 4822 249 20072	x	x	x	x	x					
Head dummy 4822 443 61616 4822 404 10685						x	x			
Head Rec/Pb 4822 249 10334	x		x		x					
Head Rec/Pb 4822 249 10397		x		x		x	x			
Damper, Motor (S) 4822 529 10193	x									
Damper, Motor (D) 4822 529 10254		x	x	x	x	x	x			
Screw, Motor (S) 4822 502 30441	x									
Screw, Motor (D) 4822 502 11866		x	x	x	x	x	x			
Support, Motor (S) 4822 403 53996	x									
Switch, Indicat."PLAY" 4822 271 30598	x	x		x		x	x			
Switch, "RECORD" 4822 278 90624		x		x						

GENERAL PARTS RN - TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate
38	4822 520 40134	ball, bearing
40	4822 402 10037	lever, pinch roller right
41/76	4822 528 70646	pinch roller
43	4822 404 10853	slide, key lock
58	4822 358 30929	drive belt RN0 S (long)
98	4822 358 30928	drive belt RN0 D (short)
101/126	4822 492 51473	spring azimuth
401	4822 691 10296	RN0 assy
402	4822 528 20676	take-up clutch assy

SUMMARY OF SERVICE CODE NUMBERS

RDN - TAPE TRANSPORTS

	RDN 1	*RDN 2*	*RDN 3*	*RDN 4*	*RDN 5*	*RDN 6*	*RDN 7*	*RDN 8*	*RDN 9*	*RDN 10*
Motor MMI-6H2LWKR 4822 361 21323										
Motor MMI-6H2LWDR 4822 361 21298		x		x				x		x
Motor MMI-6H9LWDR 4822 361 21285	x		x		x	x	x		x	
Motor MMI-6S9LR 4822 361 21425										
Motor MMI-6S9LRK 4822 361 21446										
Head erase 4822 249 20072	x	x	x	x	x	x	x	x	x	x
Head dummy 4822 443 61616 4822 404 10685	x	x	x	x	x	x	x	x	x	x
Head Rec/Pb 4822 249 10334	x	x	x	x	x	x				
Head Rec/Pb 4822 249 10397							x	x	x	x
Damper, Motor (S) 4822 529 10193										
Damper, Motor (D) 4822 529 10254	x	x	x	x	x	x	x	x	x	x
Screw, Motor (S) 4822 502 30441										
Screw, Motor (D) 4822 502 11866	x	x	x	x	x	x	x	x	x	x
Support, Motor (S) 4822 403 53996										
Switch, Indicat."PLAY" 4822 271 30598	x			x	x		xx	xx		x
Switch, "RECORD" 4822 278 90624							x	x		x

GENERAL PARTS **RDN** - TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate
38	4822 520 40134	ball, bearing
40	4822 402 10037	lever, pinch roller right
41/76	4822 528 70646	pinch roller
43	4822 404 10853	slide, key lock
58	4822 358 30929	drive belt RN0 S (long)
98	4822 358 30928	drive belt RN0 D (short)
101/126	4822 492 51473	spring azimuth
401	4822 691 10296	RN0 assy
402	4822 528 20676	take-up clutch assy

SUMMARY OF SERVICE CODE NUMBERS

RR / RDR - REVERSE TAPE TRANSPORTS

	RR 1	*RR 2*	*RR 3*	*RDR 1*	*RDR 2*	*RDR 3*	*RDR 4*	*RDR 5*	*RDR 6*	*RDR 7*	*RDR 9*
Motor MMI-6H2LWKR 4822 361 21323	x	x	x								
Motor MMI-6H2LWDR 4822 361 21298						x	x				
Motor MMI-6H9LWDR 4822 361 21285				x	x			x	x	x	x
Motor MMI-6S9LR 4822 361 21425											
Motor MMI-6S9LRK 4822 361 21446											
Head erase 4822 249 20072				x	x	x	x	x	x	x	x
Head Rec/Pb 4822 249 10334				x	x	x		x	x	x	
Head Rec/Pb 4822 249 10397							x				x
Head (reverse deck) 4822 249 30153	x			x	x	x		x	x	x	
Head (reverse deck) 4822 249 30156		x	x				x				x
Damper, Motor (D) 4822 529 10254	x	x	x	x	x	x	x	x	x	x	x
Screw, Motor (D) 4822 502 11866	x	x	x	x	x	x	x	x	x	x	x
Switch, Indicat."PLAY" 4822 271 30598	x	x	x	x	x	x	xx	x	x	x	x
Switch, "RECORD" 4822 278 90624							x				

GENERAL PARTS RR / RDR - REVERSE TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate
38/61	4822 520 10134	ball, bearing
40	4822 402 10037	lever, pinch roller right
41/76	4822 528 70646	pinch roller
43	4822 404 10853	slide, key lock
58	4822 358 30929	drive belt RN0 S (long)
73	4822 402 10038	lever, pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
98	4822 358 30928	drive belt RN0 D (short)
101/126	4822 492 51473	spring azimuth
106	4822 403 70385	lever, antiselect (WT02 onwards)
111	4822 492 70393	head clip
121	4822 403 53876	lever, mode select
401	4822 691 10296	RN0 assy
402	4822 528 20676	take-up clutch assy
403	4822 691 10294	RR0 Pb assy
1025	4822 278 90624	switch, direction indication

SUMMARY OF SERVICE CODE NUMBERS

RR RECording - REVERSE TAPE TRANSPORTS

	RR-RECI/ 1		*RR-RECII/1*	*RR-RECII/2*	*RR-RECII/3*			
Motor MMI-6H2LWKR 4822 361 21323								
Motor MMI-6H2LWDR 4822 361 21298								
Motor MMI-6H9LWDR 4822 361 21285								
Motor MMI-6S9LR 4822 361 21425	x		x					
Motor MMI-6S9LRK 4822 361 21446				x	x			
Combi Head rotation 4822 249 10434	x		x	x	x			
Damper, Motor (D) 4822 529 10254	x		x	x	x			
Screw, Motor (D) 4822 502 11866	x		x	x	x			
Switch, Indicat."PLAY" 4822 271 30598								
Switch, "RECORD" 4822 278 90624								
Lever, mode select 4822 403 70386			x	x	x			

GENERAL PARTS RR REC - REVERSE TAPE TRANSPORTS

7/67	4822 520 10718	bearing plate
38/61/212	4822 520 40134	ball, bearing
40	4822 402 10037	lever, pinch roller right
41/76	4822 528 70646	pinch roller
43	4822 404 10853	slide, key lock
73	4822 402 10038	lever, pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
98	4822 358 30928	drive belt RN0 D (short)
106	4822 403 70385	lever, antiselect (WT02 onwards)
204	4822 403 70387	lever, recording protection
205	4822 520 20725	bearing, recording protection
209	4822 492 33272	spring, tension
402	4822 528 20676	take-up clutch assy
404	4822 691 10295	RR-RECI/0 assy
405	4822 691 20665	RR-RECII/0 assy
1025	4822 278 90624	switch, direction indication

4089

Tape transports

General documentation **RN/RR**

RDN/RDR

A92-159

Service
Service
Service

Product Service Group CE Audio

Service Information

CORRECTIONS TO THE SERVICE MANUAL

* **Front–page**

  Maintenance: Statement, that BELTS should be cleaned with alcohol or spirit, is wrong.

  Correct: Belts must **n o t** be cleaned with alcohol or spirit !
  Reason : Belts are treated with silicone milk to avoid mechanical oscillation.

* **Block diagram** which describes the modular structure of the RN/RR, RDN/RDR system has to be updated.
  For new updated block diagram see annex.

* **Service hints**

  In the service manual there is stated: The head support (pos.56/72) cannot be removed because a special tool is necessary to assemble spring pos.39.
  Now an easy method has been found to assemble spring pos.39 without a special tool —> see annex "Service Hints"

* **Exploded View RR–parts**

  Because of the new RR–Recording–types the exploded view for RR parts has been revised. —>
  For the new, updated, exploded view see annex.

COMPONENTS ADDED TO THE SERVICE PARTSLIST

pos.	7/67	4822 520 10718	bearing plate
pos.	43	4822 404 10853	slide, key locking
pos.	106	4822 403 70385	lever, antiselect
pos.	404	4822 691 20665	RR RECII/0 assy
pos.	405	4822 691 10295	RR RECI/0 assy

CHANGES IN COARSE OF PRODUCTION

(Only reverse decks RR)

* To avoid "tape salad" after pressing the PLAY button, lever pos.91 was adapted.
  The adapted lever has been used from production week 9004 onwards – hot stamped in chassis **004xA** (x stands for production day 1–5, A or B stands for the shift which the part was produced in).

* **Bearing of rotary head:** tolerance in multi–cavity tools adapted.

Fault: Head jams when turned.
This effect occurs only in tape transports assembled with head supports pos.72 just after production start with multi–cavity tools and appears when the drive is used (or was stored) in a climate of more than 80% relative humidity.

Head supports produced with multi–cavity tools can be identified by a 2 digit marking – see fig.1

Bad head supports, where the failure can occur, have only been used in tape transports produced from production week 9024 up to 9031 – hot stamped in the chassis **024xA up to 031xA** (x stands for the production day 1–5, A or B stands for the shift which the part was produced in).

For service purposes the complete transport mechanism RR0 assy 4822 691 10294 is available.

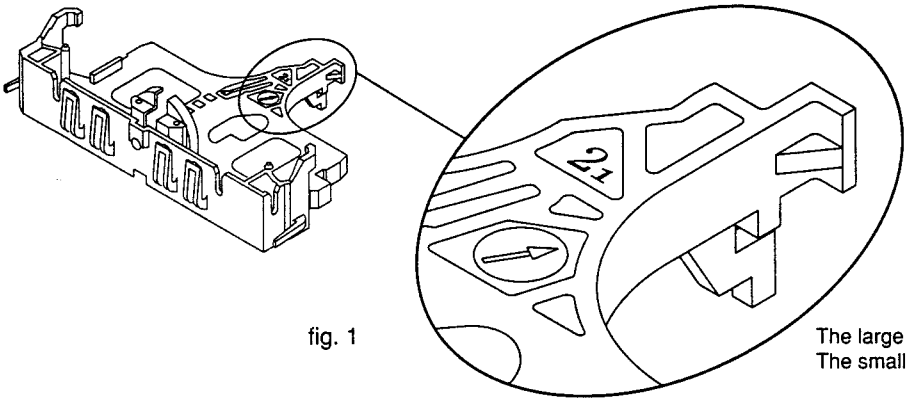


fig. 1

The large digit stands for the tool number.
The small digit stands for the cavity of this tool.

* **Delay board**

To ensure a reliable switch over of the MODE SELECTOR to "normal mode" after full auto shutoff, an electronic delay–circuit was added to all auto reverse tape transports with production change code **WT01**.
For this electronic delay circuit there were 2 different versions available —> for schematic diagrams and assembly drawings see next two pages.

From production week 9042 with change code **WT02** onwards this electronic delay–circuit has been replaced by a mechanical solution:

lever pos. 70 changed
lever pos.106 added 4822 403 70385

Attention: Lever pos.106 is not mounted on all RR0Pb (4822 691 10294), RR–RECI/0 (4822 691 10295) and RR–RECII/0 (4822 691 20665) tape transports, available for service purposes —> because of the changed lever pos.70 the auto–shutoff function does not work without lever pos.106!
If a tape transport with change code **WT01** will be exchanged by a tape transport with change code **WT02** lever pos.106 has to be ordered extra and mounted on the new tape transport. —> see fig.2

From June 92 onwards it is organized that the tape transports will be delivered with lever pos.106 mounted.

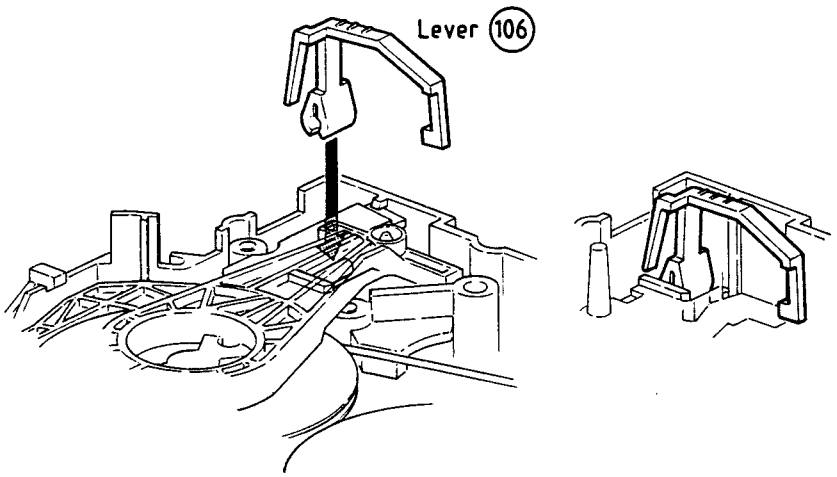


fig. 2

(GB)

REVERSE MODE -position 2 of mode selector 121

"FF" or "REW": On tape end full "auto shut off" will be activated and "mode selector" will be switched over to "normal mode".

To ensure a reliable switching over of the "mode selector in case of "full auto shut off" it is necessary that flywheel makes at least 3 turns after switching off the supply. Therefore a **motor shut off-delay** has been added.

(F)

MODE REVERSE (retour en arrière)- position 2 ou sélecteur de mode 121

"FF" ou "REW" : En fin de bande, l'arrêt total automatique sera activé et le "sélecteur de mode" commutera sur "mode normal".

Pour garantir une commutation fiable du "sélecteur de mode" en cas d'arrêt total automatique, il faut que le volant effectue au moins 3 tours après la mise hors circuit. C'est la raison pour laquelle un **retard d'arrêt du moteur** a été intégré.

(NL)

REVERSE MODE - positie 2 van keuzeschakelaar 121

"FF" of "REW" : Aan het einde van de band wordt de automatische uitschakeling geactiveerd en wordt keuzeschakelaar 121 naar "normal mode" geschakeld.

Om bij automatische uitschakeling een betrouwbare omschakeling van de keuzeschakelaar te waarborgen, is het noodzakelijk dat het vliegwiel na de uitschakeling nog minstens 3 omwentelingen maakt.

Om dit te bereiken is een **uitschakelingsvertraging** voor de motor ingebouwd.

(D)

REVERSE MODE -Position 2 des Mode-Selektors 121

"FF" oder "REW": Am Bandende schaltet die automatische Endabschaltung ab und der "Mode Selektor" wird auf "normal mode" umgeschaltet.

Um ein zuverlässiges Umschalten des "Mode Selektors" nach der automatischen Endabschaltung zu gewährleisten, ist es notwendig, dass die Schwungmasse nach dem Abschalten noch mindestens 3 Umdrehungen macht.

Deshalb wurde eine **Motor-Abschaltverzögerung** eingebaut.

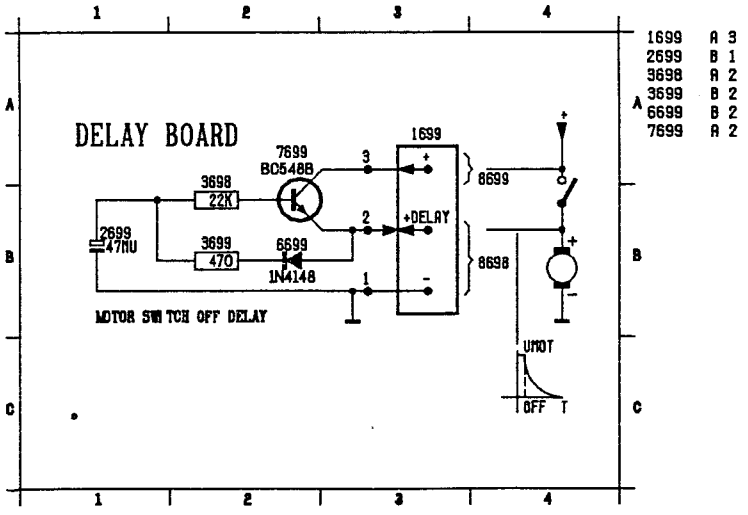
(I)

MODO REVERSE - posizione 2 del selettore 121

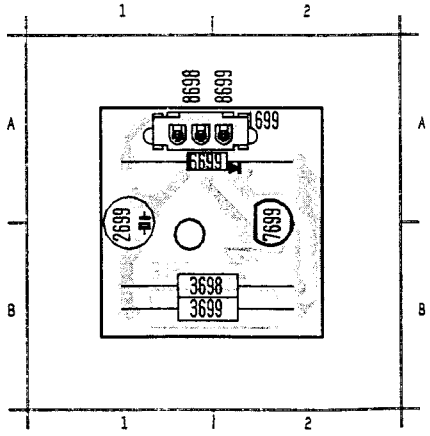
"FF" o "REW": alla fine del nastro nella cassetta, l'apparecchio viene spento automaticamente ed il selettore 121 commutato nel "modo normale".

Onde assicurare allo spegnimento automatico una commutazione affidabile del selettore è necessario che il volano dopo lo spegnimento faccia ancora almeno 3 giri. Per tale ragione è incorporato un ritardo di arresto per il motorino.

VERSION 1

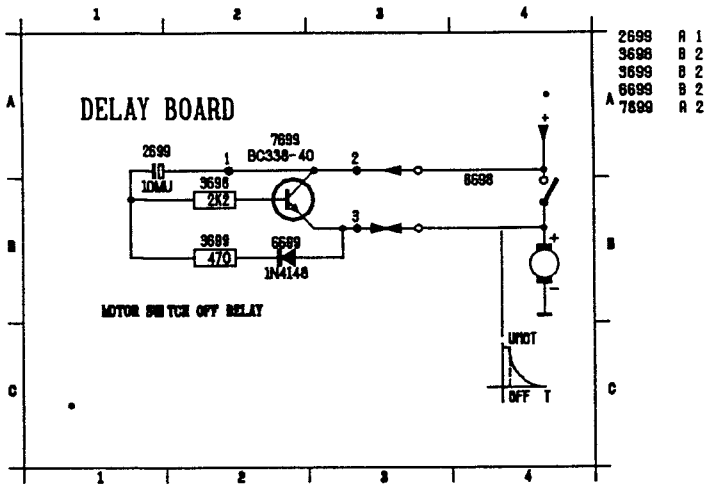


DELAY BOARD / SIDE-B VIEW /

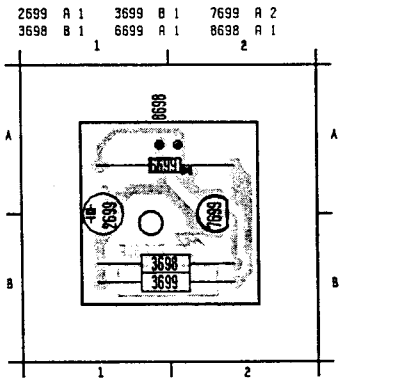


CAD-REF: PC.AS9500.P0.01.AS9500.00.SERV-B / 90-02-27

VERSION 2



DELAY BOARD / COMPONENTSIDE VIEW / AS9500



CAD-REF: PC.AS9500.P0.02.AS9500.00.SERV-B / 90-04-12

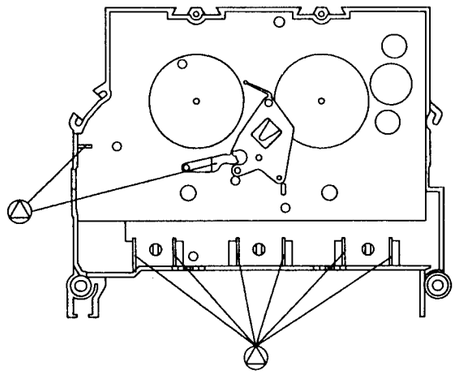
BASIC PARTS
RN/RR-TAPE DECK

40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

RN0 (401)

BOTTOM VIEW OF CHASSIS WINDPLATE

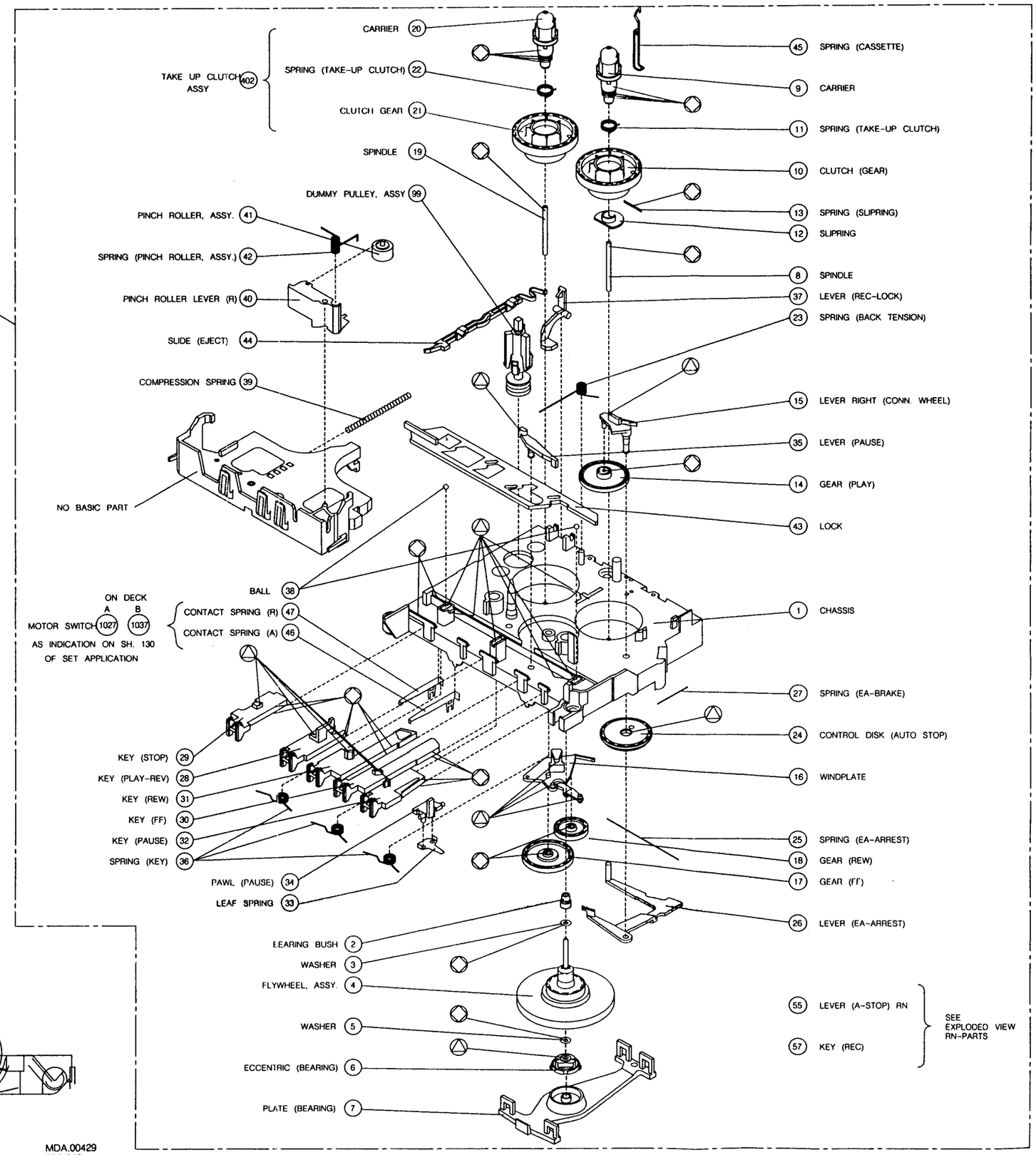


LUBRICANT (MOBIL SHC 634) tern No. 48

GREASE (SHELL ALVANIA RS) tern No. 49

HANNOSIL-RELEASE AGENT M tern No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED



- Controllo della regolazione del **trasporto del nastro e** del rullino trainonastro

  Servirsi della cassetta a specchio 4822 395 30058 nel modo di riproduzione.
  Se il nastro si sposta in alto ed in basso dalla parte del rullino trainonastro, registrare il rullino trainonastro in senso verticale con l'aiuto del cuscinetto del volano 5.
  Il nastro deve passare ben diritto ed agevolmente tra le guide del nastro lungo il rullino trainonastro. Sono consentite piccole deviazioni dato che il loro effetto è trascurabile con l'uso di una cassetta normale.

  Attenzione: in caso l'apparecchio permetta sia la registrazione che la riproduzione, a registrazione avvenuta dell'azimut della testina di registrazione/riproduzione è importante controllare il trasporto del nastro nei due sensi. Se necessario, ripetere la registrazione.
  Per la **registrazione dell'azimut** della testina di registrazione/riproduzione e la **velocità di trasporto del nastro**, consultare il manuale di servizio assistenza dell'apparecchio in questione.

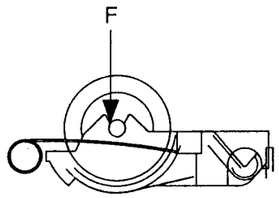


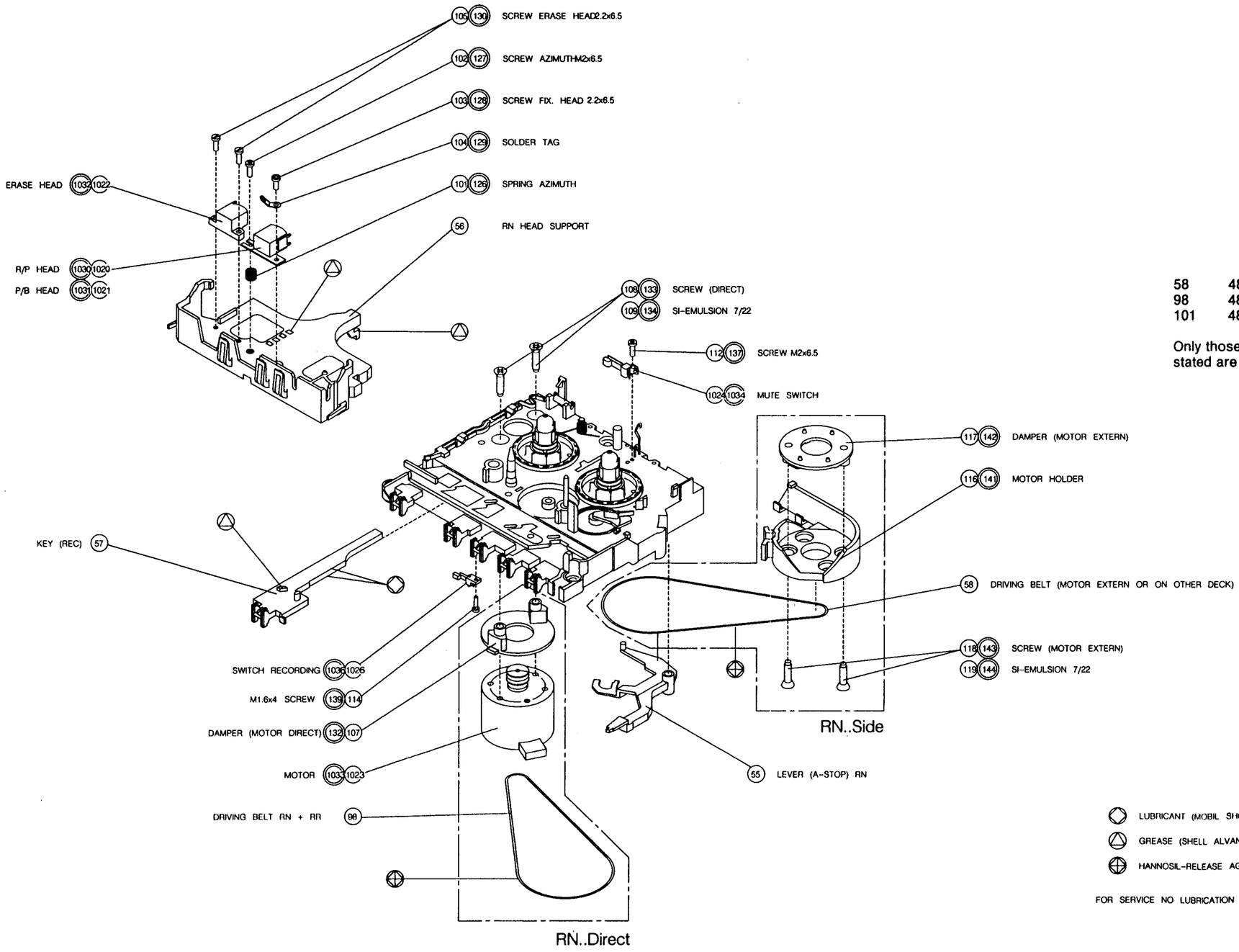
FIG 2

MDA.00429
T07/646

RN-PARTS
(additional to basic parts)

ITEM (100) TO (124) ON "DECK A"

ITEM (125) TO (149) ON "DECK B"


105 130 SCREW ERASE HEAD2.2x6.5
102 127 SCREW AZIMUTH-M2x6.5
103 128 SCREW FIX. HEAD 2.2x6.5
104 129 SOLDER TAG
101 126 SPRING AZIMUTH
56 RN HEAD SUPPORT
ERASE HEAD 1032 1022
R/P HEAD 1030 1020
P/B HEAD 1031 1021
106 133 SCREW (DIRECT)
109 134 SI-EMULSION 7/22
112 137 SCREW M2x6.5
1024 1034 MUTE SWITCH
117 142 DAMPER (MOTOR EXTERN)
116 141 MOTOR HOLDER
58 DRIVING BELT (MOTOR EXTERN OR ON OTHER DECK)
118 143 SCREW (MOTOR EXTERN)
119 144 SI-EMULSION 7/22
RN..Side
KEY (REC) 57
SWITCH RECORDING 1035 1026
M1.6x4 SCREW 139 114
DAMPER (MOTOR DIRECT) 132 107
MOTOR 1033 1023
DRIVING BELT RN + RR 98
55 LEVER (A-STOP) RN
RN..Direct

58	4822 358 30929	driving belt RN 0S
98	4822 358 30928	driving belt RN 0D
101	4822 492 51473	spring azimuth

Only those parts of which a service code number is stated are service parts.

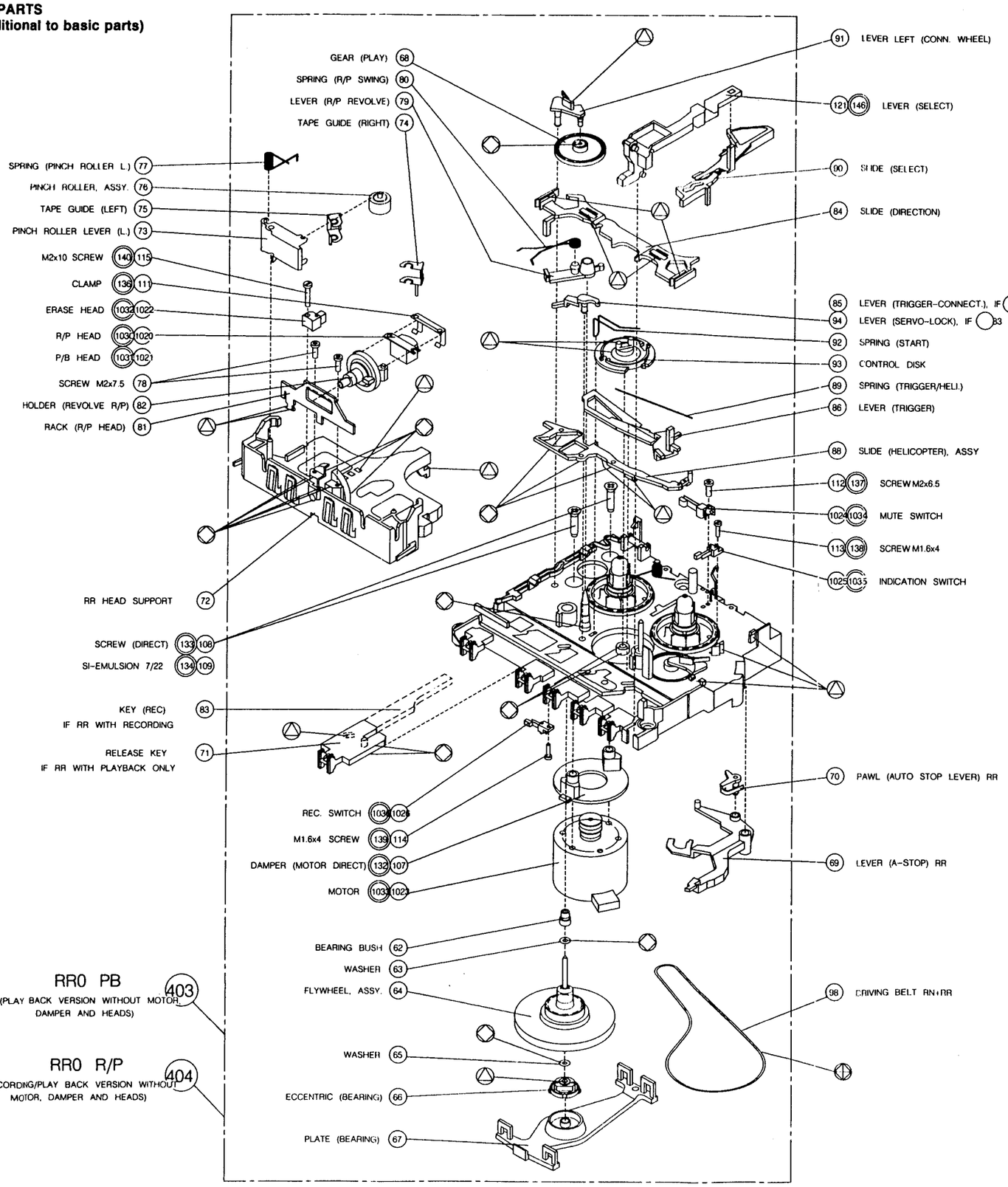
LUBRICANT (MOBIL SHC 634) term No. 48

GREASE (SHELL ALVANIA RS) term No. 49

HANNOSIL-RELEASE AGENT M term No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

RR-PARTS
(additional to basic parts)


GEAR (PLAY) 68
SPRING (R/P SWING) 80
LEVER (R/P REVOLVE) 79
TAPE GUIDE (RIGHT) 74
SPRING (PINCH ROLLER L.) 77
PINCH ROLLER, ASSY. 76
TAPE GUIDE (LEFT) 75
PINCH ROLLER LEVER (L.) 73
M2x10 SCREW 140 115
CLAMP 136 111
ERASE HEAD 1032 1022
R/P HEAD 1030 1020
P/B HEAD 1031 1021
SCREW M2x7.5 78
HOLDER (REVOLVE R/P) 82
RACK (R/P HEAD) 81
RR HEAD SUPPORT 72
SCREW (DIRECT) 133 106
SI-EMULSION 7/22 134 109
KEY (REC) 83
IF RR WITH RECORDING
RELEASE KEY 71
IF RR WITH PLAYBACK ONLY
REC. SWITCH 1033 1023
M1.6x4 SCREW 139 114
DAMPER (MOTOR DIRECT) 132 107
MOTOR 1034 1024
BEARING BUSH 62
WASHER 63
FLYWHEEL, ASSY. 64
WASHER 65
ECCENTRIC (BEARING) 66
PLATE (BEARING) 67
RR0 PB
(PLAY BACK VERSION WITHOUT MOTOR, DAMPER AND HEADS) 403
RR0 R/P
(RECORDING/PLAY BACK VERSION WITHOUT MOTOR, DAMPER AND HEADS) 404
91 LEVER LEFT (CONN. WHEEL)
121 146 LEVER (SELECT)
90 SLIDE (SELECT)
84 SLIDE (DIRECTION)
85 LEVER (TRIGGER-CONNECT.), IF ◯ 71 IS USED
94 LEVER (SERVO-LOCK), IF ◯ 83 IS USED
92 SPRING (START)
93 CONTROL DISK
89 SPRING (TRIGGER/HELI.)
86 LEVER (TRIGGER)
88 SLIDE (HELICOPTER), ASSY
112 137 SCREW M2x6.5
1024 1034 MUTE SWITCH
113 138 SCREW M1.6x4
1025 1035 INDICATION SWITCH
70 PAWL (AUTO STOP LEVER) RR
69 LEVER (A-STOP) RR
98 DRIVING BELT RN+RR

ITEM (100) TO (124) ON "DECK A"

ITEM (125) TO (149) ON "DECK B"

73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR0 PB assy
404	4822 691 10295	RR0 R/P assy

Only those parts of which a service code number is stated are service parts.

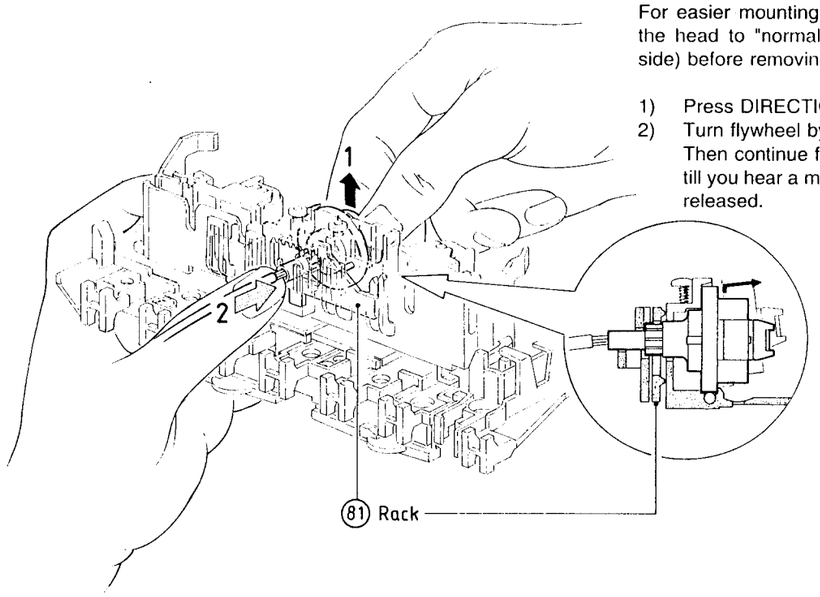
◯ LUBRICANT (MOBIL SHC 634) teml No. 48

△ GREASE (SHELL ALVANIA RS) teml No. 49

⊕ HANNOSIL-RELEASE AGENT M teml No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

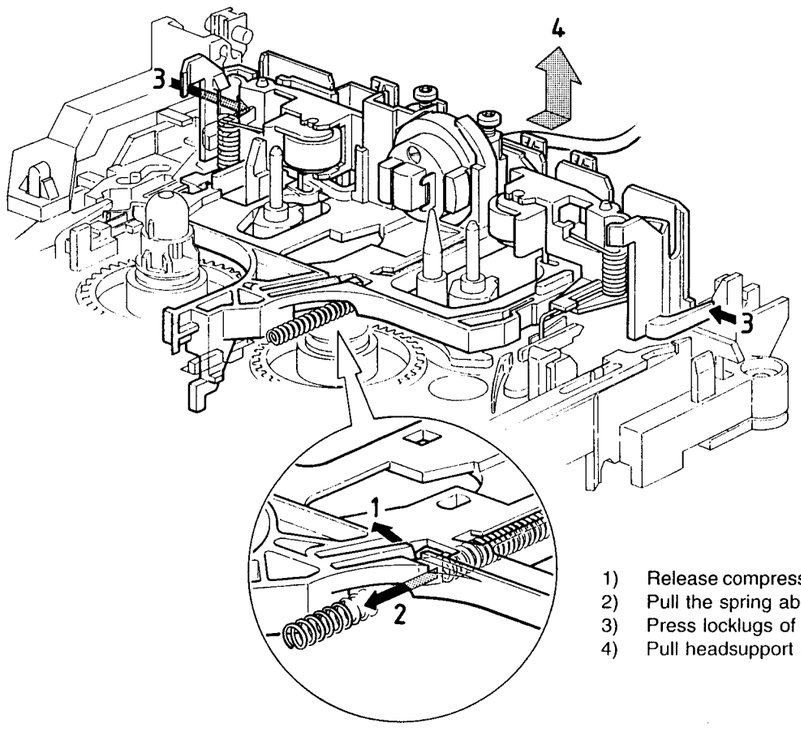
REMOVAL OF ROTATION HEAD



For easier mounting of the rotation head afterwards, turn the head to "normal direction" (tape guiding on the right side) before removing:

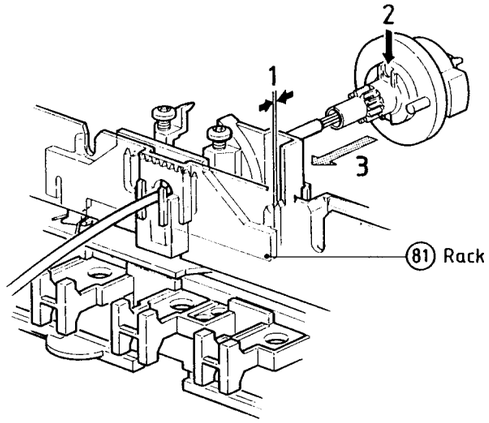
1) Press DIRECTION - key once.
2) Turn flywheel by hand as long as head turns around. Then continue for about half a rotation of the flywheel till you hear a mechanical click. Now the mechanism is released.

REMOVAL OF HEADSUPPORT



1) Release compression spring by pressing locklug aside.
2) Pull the spring about half of the spring length out.
3) Press locklugs of the headsupport aside.
4) Pull headsupport in direction to the keys and lift it.

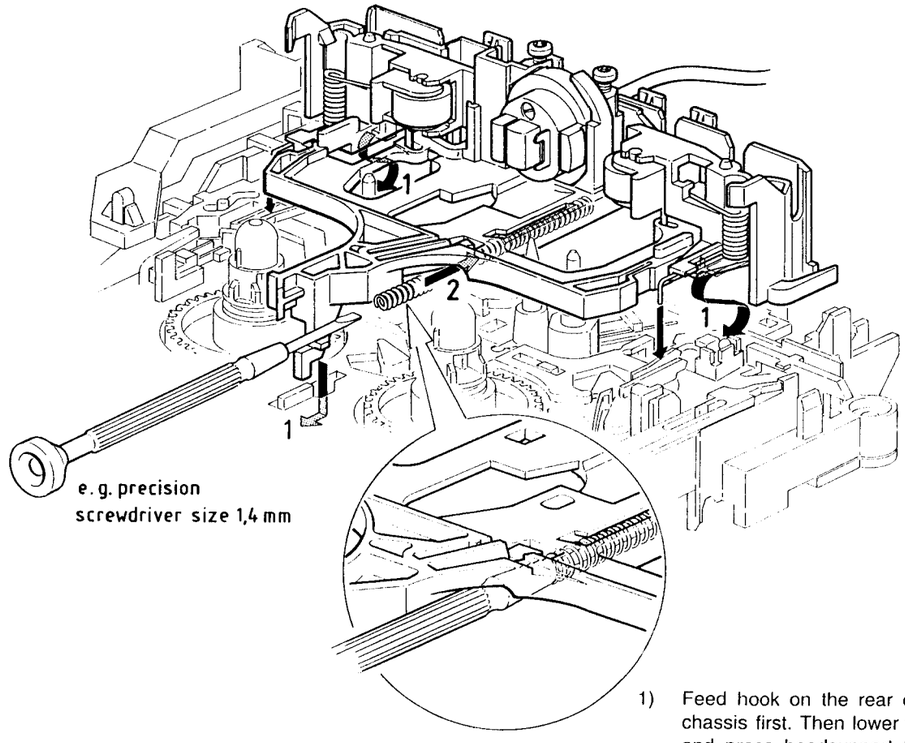
MOUNTING OF ROTATION HEAD



Rack pos.81 has to be aligned before mounting the rotation head:

1) Press DIRECTION - key once.
   Turn flywheel by hand as long as the alignment pin of rack pos.81 is in line with the alignment marking on the headsupport --> see sketch.
2) Hold the head in normal (horizontal) position - marking on the head is on top.
3) Snap head into headsupport.
   remark: If you follow the above instruction the teeth of the gear will fit together.
4) Change the direction as described under "removal of rotation head" and check if the rotation head turns to the correct position.
   If the head is not in horizontal position repeat and take care of exact alignment of rack pos.81 and horizontal position of the head while mounting.

MOUNTING OF HEADSUPPORT

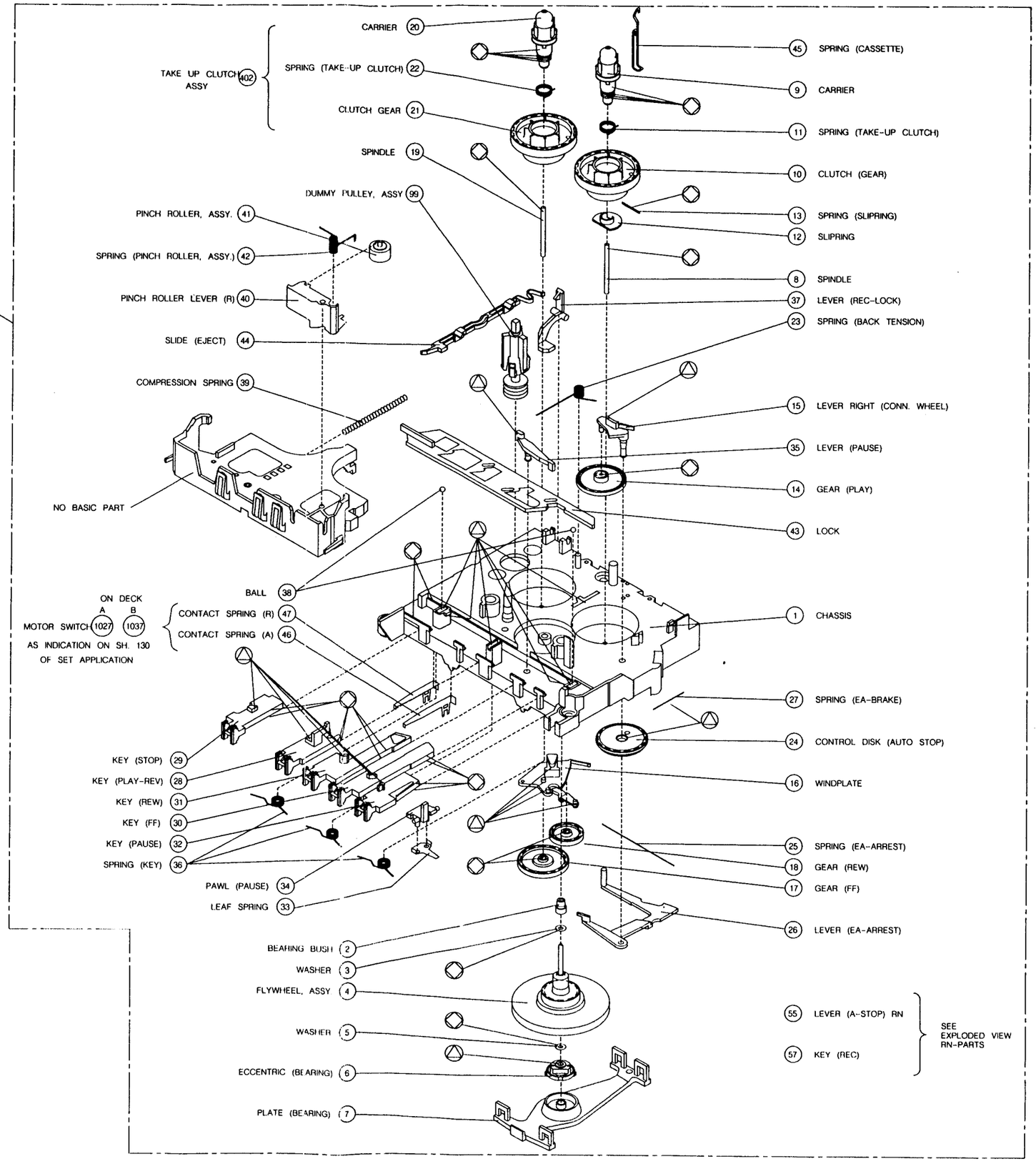


1) Feed hook on the rear of the headsupport into the chassis first. Then lower the front part to the chassis and press headsupport towards back until locklugs snap in.
   Attention: In case of a reverse deck take care of fitting the pinch roller pressing springs correctly into the guiding slots of the chassis.

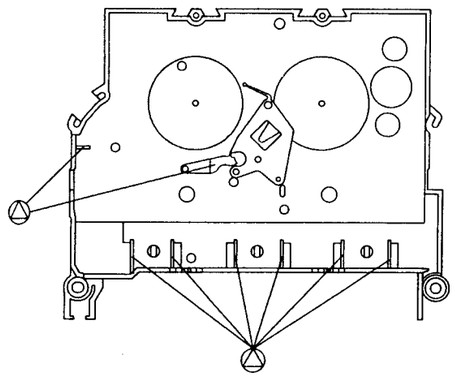
2) Use a little screwdriver as a guiding and compress compression spring until locklug arrests.

BASIC PARTS
RN/RR-TAPE DECK

RN0 (401)



BOTTOM VIEW OF CHASSIS WINDPLATE



LUBRICANT (MOBIL SHC 634) tem No. 48

GREASE (SHELL ALVANIA RS) tem No. 49

HANNOSIL-RELEASE AGENT M tem No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

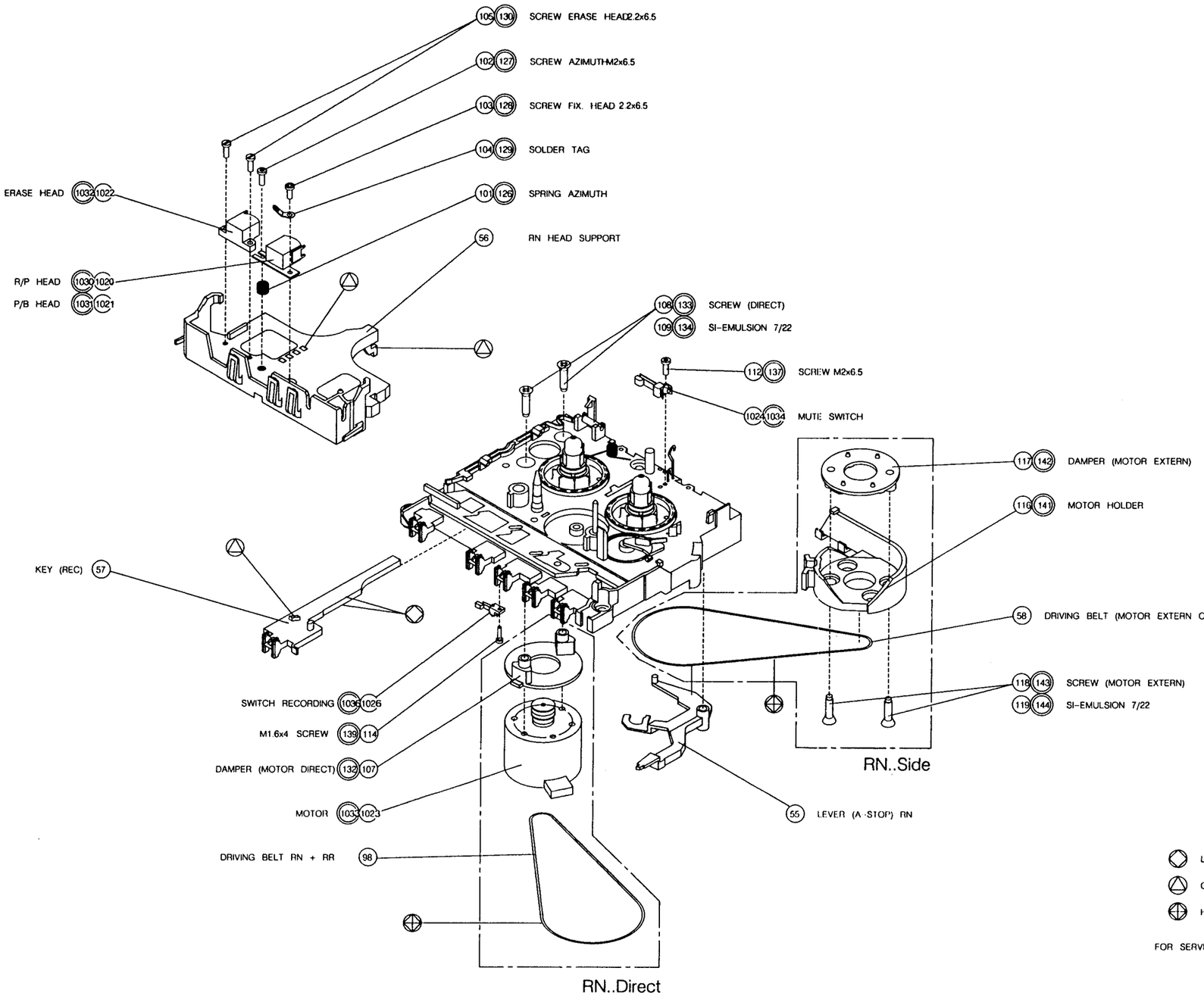
7	4822 520 10718	plate bearing
40	4822 402 10037	lever pinchroller right
41	4822 528 70646	pinch roller
43	4822 404 10853	slide, key locking
401	4822 691 10296	RN 0 assy
402	4822 528 20676	take up clutch assy

Only those parts of which a service code number is stated are service parts.

RN-PARTS
(additional to basic parts)

ITEM (100) TO (124) ON "DECK A"

ITEM (125) TO (149) ON "DECK B"


105 130 SCREW ERASE HEAD2.2x6.5
102 127 SCREW AZIMUTH-M2x6.5
103 128 SCREW FIX. HEAD 2.2x6.5
104 129 SOLDER TAG
101 126 SPRING AZIMUTH
56 RN HEAD SUPPORT
ERASE HEAD 1032 1022
R/P HEAD 1030 1020
P/B HEAD 1031 1021
108 133 SCREW (DIRECT)
109 134 SI-EMULSION 7/22
112 137 SCREW M2x6.5
1024 1034 MUTE SWITCH
117 142 DAMPER (MOTOR EXTERN)
116 141 MOTOR HOLDER
58 DRIVING BELT (MOTOR EXTERN OR ON OTHER DECK)
118 143 SCREW (MOTOR EXTERN)
119 144 SI-EMULSION 7/22
RN..Side
KEY (REC) 57
SWITCH RECORDING 1035 1026
M1.6x4 SCREW 139 114
DAMPER (MOTOR DIRECT) 132 107
MOTOR 1033 1023
DRIVING BELT RN + RR 98
55 LEVER (A-STOP) RN
RN..Direct

58	4822 358 30929	driving belt RN 0S
98	4822 358 30928	driving belt RN 0D
101	4822 492 51473	spring azimuth

Only those parts of which a service code number is stated are service parts.

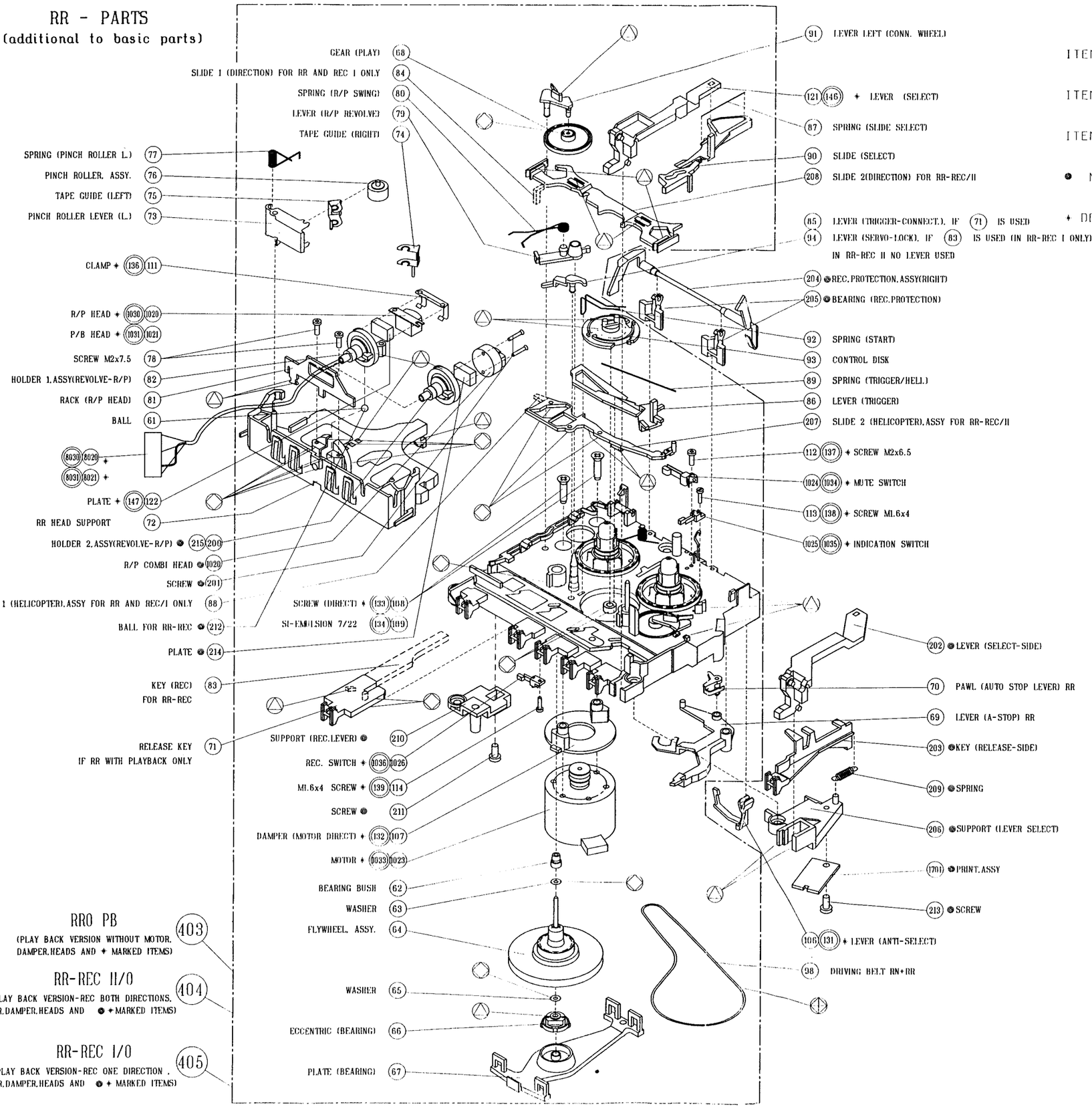
LUBRICANT (MOBIL SHC 634) tem No. 48

GREASE (SHELL ALVANIA RS) tem No. 49

HANNOSIL-RELEASE AGENT M tem No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

RR - PARTS
(additional to basic parts)


GEAR (PLAY) 68
SLIDE 1 (DIRECTION) FOR RR AND REC I ONLY 84
SPRING (R/P SWING) 80
LEVER (R/P REVOLVE) 79
TAPE GUIDE (RIGHT) 74
SPRING (PINCH ROLLER L.) 77
PINCH ROLLER. ASSY. 76
TAPE GUIDE (LEFT) 75
PINCH ROLLER LEVER (L.) 73
CLAMP * 136 111
R/P HEAD * 1030 1020
P/B HEAD * 1031 1021
SCREW M2x7.5 78
HOLDER 1.ASSY(REVOLVE-R/P) 82
RACK (R/P HEAD) 81
BALL 61
8030 8020 *
8031 8021 *
PLATE * 147 122
RR HEAD SUPPORT 72
HOLDER 2.ASSY(REVOLVE-R/P) ● 215 200
R/P COMBI HEAD ● 1020
SCREW ● 201
SLIDE 1 (HELICOPTER).ASSY FOR RR AND REC/I ONLY 88
BALL FOR RR-REC ● 212
PLATE ● 214
KEY (REC) FOR RR-REC 83
RELEASE KEY IF RR WITH PLAYBACK ONLY 71
SCREW (DIRECT) * 133 108
SI-EMULSION 7/22 134 109
SUPPORT (REC.LEVER) ● 210
REC. SWITCH * 1036 1026
M1.6x4 SCREW * 139 114
SCREW ● 211
DAMPER (MOTOR DIRECT) * 132 107
MOTOR * 1033 1023
BEARING BUSH 62
WASHER 63
FLYWHEEL. ASSY. 64
WASHER 65
ECCENTRIC (BEARING) 66
PLATE (BEARING) 67
91 LEVER LEFT (CONN. WHEEL)
121 146 * LEVER (SELECT)
87 SPRING (SLIDE SELECT)
90 SLIDE (SELECT)
208 SLIDE 2(DIRECTION) FOR RR-REC/II
85 LEVER (TRIGGER-CONNECT.). IF 71 IS USED
94 LEVER (SERVO-LOCK). IF 83 IS USED (IN RR-REC I ONLY)
IN RR-REC II NO LEVER USED
204 ● REC. PROTECTION. ASSY(RIGHT)
205 ● BEARING (REC.PROTECTION)
92 SPRING (START)
93 CONTROL DISK
89 SPRING (TRIGGER/HELL.)
86 LEVER (TRIGGER)
207 SLIDE 2 (HELICOPTER).ASSY FOR RR-REC/II
112 137 * SCREW M2x6.5
1024 1034 * MUTE SWITCH
113 138 * SCREW M1.6x4
1025 1035 * INDICATION SWITCH
202 ● LEVER (SELECT-SIDE)
70 PAWL (AUTO STOP LEVER) RR
69 LEVER (A-STOP) RR
203 ● KEY (RELEASE-SIDE)
209 ● SPRING
206 ● SUPPORT (LEVER SELECT)
1701 ● PRINT. ASSY
213 ● SCREW
106 131 * LEVER (ANTI-SELECT)
98 DRIVING BELT RR+RR
RR0 PB
(PLAY BACK VERSION WITHOUT MOTOR. DAMPER. HEADS AND * MARKED ITEMS)
403
RR-REC II/0
(RECORDING/PLAY BACK VERSION-REC BOTH DIRECTIONS. WITHOUT MOTOR. DAMPER. HEADS AND ● * MARKED ITEMS)
404
RR-REC I/0
(RECORDING/PLAY BACK VERSION-REC ONE DIRECTION . WITHOUT MOTOR. DAMPER. HEADS AND ● * MARKED ITEMS)
405

EXPLANATIONS FOR VERSIONS:

ITEM (100) TO (124) ON "DECK A"

ITEM (125) TO (149) ON "DECK B"

ITEM (200) TO (215) ONLY USED IN REC.VERSION

● NOT IN RR-REC I/O AND RR-REC II/O

* DEPENDENT ON VERSION. THEREFORE NOT IN RR 0 PB AND RR-REC I/O AND RR-REC II/O

67	4822 520 10718	plate bearing
73	4822 402 10038	lever pinch roller left
74	4822 535 92992	tape guide right
75	4822 535 92993	tape guide left
76	4822 528 70646	pinch roller
106	4822 403 70385	lever
111	4822 492 70393	spring head clamping
403	4822 691 10294	RR0 PB assy
404	4822 691 20665	RR REC II /0 assy
405	4822 691 10295	RR REC I /0 assy

Only those parts of which a service code number is stated are service parts.

LUBRICANT (MOBIL SHC 634) Item No. 48

GREASE (SHELL ALVANIA RS) Item No. 49

HANNOSIL-RELEASE AGENT M Item No. 50

FOR SERVICE NO LUBRICATION IS NECESSARY EXCEPT PART WILL BE RENEWED

4188

Record-player HP7D283MQ-1

Service
Service
Service

Service Manual

Operating voltage : 9-15Vdc
Wow and futter : 0.25%
Belt - drive

(GB)
Safety regulations require that the set be restored to its original condition and that parts which are identical with those specified be used.

(NL)
Veiligheidsbepalingen vereisen, dat het apparaat in zijn oorspronkelijke toestand wordt teruggebracht en dat onderdelen, identiek aan de gespecificeerde worden toegepast.

(D)
Bei jeder Reparatur sind die geltenden Sicherheitsvorschriften zu beachten. Der Originalzustand des Geräts darf nicht verändert werden für Reparaturen sind Original-Ersatzteile zu verwenden.

(I)
Le norme di sicurezza esigono che l'apparecchio venga rimesso nelle condizioni originali e che siano utilizzati pezzi di ricambiago identici a quelli specificati.

(F)
Les normes de sécurité exigent que l'appareil soit remis à l'état d'origine et que soient utilisées les pièces de rechange identiques à celles spécifiées.

Documentation Technique Service Dokumentation Documentazione di Servizio Huolto-Ohje Manual de Servicio Manual de Servicio

PHILIPS

Pour votre sécurité, ces documents doivent être utilisés par des spécialistes agréés, seuls habilités à réparer votre appareil en panne.

Subject to modification
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PHILIPS

Published by Consumer Electronics

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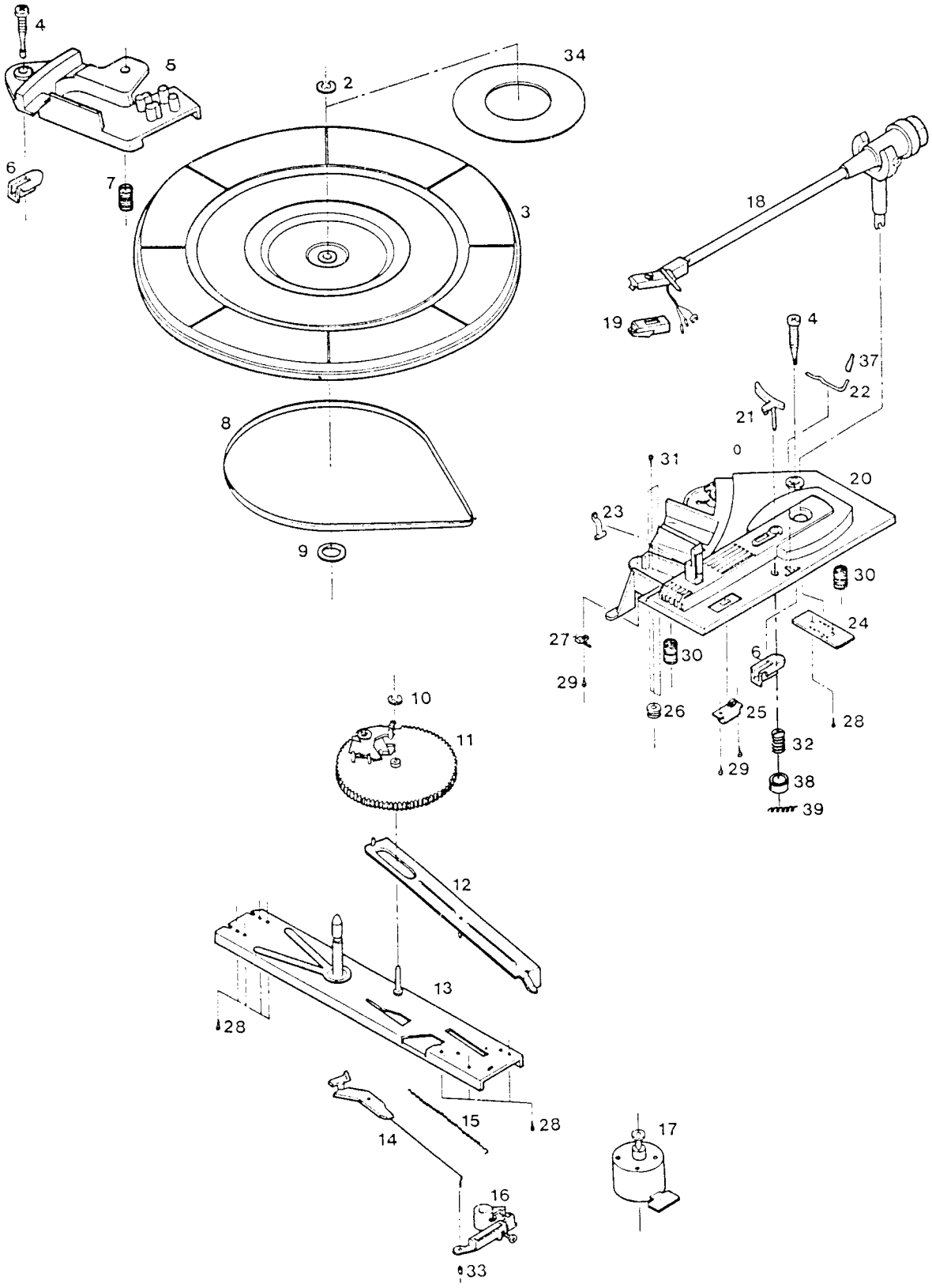
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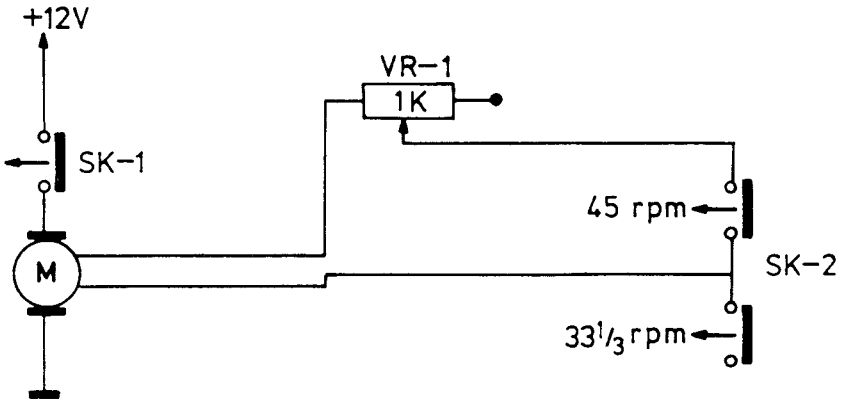

SK-1 4822 277 60253
SK-2 4822 277 60254
VR-1 4822 100 20641

Speed adjustment

Testrecord	↻	obliged sequence
33 r.p.m.	'X' (in motor)	↓
45 r.p.m.	VR-1	

2	4822 532 12001	14	4822 402 61321
3	4822 528 10677	15	4822 492 42169
4	4822 502 12894	16	4822 403 70097
6	4822 492 70558	17	4822 361 21005
7	4822 492 63904	18	4822 251 70301
8	4822 358 30813	19	4822 251 30133
9	4822 532 51878	21	4822 403 61343
10	4822 530 70431	22	4822 402 61168
11	4822 522 20385	23	4822 402 50239

25	4822 277 60254		
26	4822 325 50171		
27	4822 277 60253		
30	4822 492 51963		
32	4822 492 51962		
34	4822 532 51965		
37	4822 413 41559		
38	4822 402 61257		
39	4822 535 92442		